

Exhibit 16

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF PENNSYLVANIA**

IN RE: NATIONAL FOOTBALL LEAGUE
PLAYERS' CONCUSSION INJURY
LITIGATION

No. 2:12-md-02323-AB
MDL No. 2323

Kevin Turner and Shawn Wooden,
*on behalf of themselves and
others similarly situated,*

Plaintiffs,

v.

National Football League and
NFL Properties, LLC,
successor-in-interest to
NFL Properties, Inc.,

Defendants.

Hon. Anita B. Brody

Civil Action No. 2:14-cv-00029-AB

THIS DOCUMENT RELATES TO:
ALL ACTIONS

DECLARATION OF CHRISTOPHER C. GIZA, M.D.

CHRISTOPHER C. GIZA, M.D., hereby declares as follows:

1. I have personal knowledge concerning the matters addressed herein, and submit this declaration in connection with Plaintiffs' motion for approval of the proposed settlement of claims in this litigation. If called as a witness, I could and would testify competently to the facts and opinions set forth in this declaration. All opinions set forth herein I hold to a reasonable degree of medical certainty.

2. I am a Medical Doctor, licensed in the State of California, and a Diplomat of the American Board of Psychiatry and Neurology. My complete curriculum vitae is attached as Tab

A. Below I highlight here some of my experience, research, and qualifications relevant to the opinions set forth below.

3. I am a practicing neurologist in the Division of Pediatric Neurology at the Mattel Children's Hospital and the David Geffen School of Medicine at UCLA. I am also a Professor of Pediatric Neurology and Neurosurgery in the UCLA Brain Injury Research Center and Director of the UCLA Steve Tisch BrainSPORT Program,

4. I have academic affiliations in the Biomedical Engineering and Neurosciences Interdepartmental Programs at UCLA, and have been dedicated to Brain Injury Research over the past 16 years training undergraduates, graduate students, postdocs, and young doctors. One of my areas of expertise, both from a research and clinical perspective, involves the diagnosis and treatment of patients after concussions and more severe TBI. Having seen pediatric and young adult traumatic brain injury patients for many years, in 2012 we established the multidisciplinary UCLA Sports Concussion Clinic, bringing together pediatric neurology, neuropsychology, sports medicine, and nursing. The UCLA Concussion Clinic provides comprehensive neurological and neuropsychological assessments for those with sports-related and non-sports-related TBI. Our program also provides comprehensive baseline testing for youth sports.

5. Research that strives to better understand the neurobiology of concussive injuries, more severe traumatic brain injury, and recovery from such injuries is a primary professional interest of mine. I have been the Principal Investigator of many clinical and laboratory grants/research projects pertinent to the physical and cognitive effects of traumatic brain injury.

6. Over the past ten to fifteen years, my concussion research activities have related to a number of topics including the underlying pathophysiologic process of concussive brain

injury and relating these neuro-metabolic changes to both neural dysfunction and vulnerability to subsequent injury. Dr. David A. Hovda and I were the co-authors of a seminal paper on this topic in 2001, as well as the updated publication entitled the “The New Neurometabolic Cascade of Concussion”, 75 Neurosurgery, Number 4, 24-33.

7. I served as the Co-Chair of the Committee that authored the 2013 Report of the American Academy of Neurology entitled “Summary of evidence-based guideline update: Evaluation and management of concussion in sports.” These Guidelines—which have been endorsed by the National Football League Players Association, the Child Neurology Society, the National Association of Emergency Medical Services Physicians, the National Association of School Psychologists, the National Athletic Trainers Association, and the Neurocritical Care Society—constitute the Academy’s current analysis of four significant issues: (1) what factors increase/decrease concussion risk; (2) what diagnostic tools identify those with concussion and those at increased risk of severe/prolonged early impairments, neurologic catastrophe, or chronic neurobehavioral impairment; (3) what clinical factors identify those at increased risk for severe/prolonged post-concussion impairments, neurological catastrophe, recurrent concussions or chronic neurobehavioral impairment; and, (4) what interventions enhance recovery, reduce recurrent concussion risk or diminish long-term sequelae.

8. Other Professional activities pertinent to my work in the field of concussion, brain injury, and the resulting pathophysiology of concussion include: Co-director, American Academy of Neurology Sport Concussion Conference, 2014; Centers for Disease Control: Chair of Subcommittee on more severe acute impairment after pediatric mild TBI; United States Department of Defense: Operation MEND, providing TBI research and clinical care to OpMEND team and visiting military personnel; Neurologist to the Concussion Program

Committees of the NCAA and Major League Soccer; clinical consultant to the National Hockey League Players Association and the National Football League Neurological Care Program.

9. I have been an author on multiple publications involving the assessment of sports concussions and pathophysiology of concussions and TBI. I have been an invited speaker and given more than 170 lectures over the past decade regarding concussion, traumatic brain injury and the pathophysiology of injury and recovery. I have been extensively published in my field of neuroscience and brain injury, including books, book chapters, and peer reviewed journals.

10. I have reviewed the portions of the NFL Retired Players' Settlement Agreement related to the qualifying diagnoses, the injury definitions for Baseline Assessment Plan supplemental benefits and qualifying diagnoses for monetary awards (Section 6.3 and Injury Definitions section—Exhibits 1 and 2 to the Settlement Agreement), and provide the following information pertinent to the Court's understanding of the medical science relevant to this Agreement.

11. A concussion is a physiological process induced by biomechanical force that results in neurocognitive dysfunction. It is a 'brain movement injury'. The neurocognitive dysfunction commonly manifests with headaches, confusion, memory impairment, inattention, dizziness, slowed responsiveness, incoordination, nausea or vomiting, and may include sleep disturbances, visual disturbances, personality change, and changes in emotion. A concussion does not require a loss of consciousness. A concussive event can occur from a direct impact to the head or from an indirect impact causing motion of the head, resulting in translational and/or angular acceleration of the brain. There is no scientifically determined threshold of impact force or acceleration to the brain to predict or diagnose that a person has suffered a concussion. A person's susceptibility to suffer a concussion is extremely variable. Epidemiological studies

demonstrate that female athletes are more prone to concussion than male athletes. Younger athletes (high school age) appear to take longer to recover from concussions than do older (adult/college) athletes.

12. Concussion and mild traumatic brain injury are sometimes used synonymously, but there can be distinctions. Historically, the severity of TBI has been designated by Glasgow Coma Score (GCS), and a GCS of 13-15 is considered mild TBI. Thus, while concussion overlaps significantly with mTBI, an mTBI could also have a skull fracture or a small brain hemorrhage and still have a GCS of 13-15. A concussion refers to a clinical syndrome of symptoms, as outlined above, induced by biomechanical forces to the brain. This is generally accepted to occur without overt cell death or macrostructural damage to the brain. Concussion is predominantly an injury of diffuse dysfunction, without a ‘hole in the brain’. Given this, concussion represents a largely recoverable diagnosis, which is borne out by multiple studies. The main concerns arise, however, in a sports-related setting, where repeated injuries may occur before full recovery, and where many participants are still in developmental stages of brain maturation. In these circumstances, there is growing evidence that the consequences of concussion may be longer lasting, permanent, or perhaps even degenerative. Following a concussion, cerebral pathophysiology can be adversely affected for days or weeks. Symptoms of concussion can include confusion, disorientation, unsteadiness, dizziness, headache and visual disturbances. These symptoms often arise without a detectable anatomic pathology and often resolve completely over time, suggesting that they are based on temporary neuronal dysfunction rather than cell death.

13. Current research confirms that a person who has suffered a concussion is at increased risk to sustain additional injury, including another concussion. Some of this risk is due

to recoverable factors, like biological vulnerability, impaired reaction time, incoordination and cognitive slowing, which may dissipate with time and healing. Persistent symptomatology after a single concussion is heavily influenced by premorbid risk factors such as migraine, learning difficulties, anxiety, and other neurobehavioral diagnoses.

14. While medical literature and clinical practice has *associated* psychological symptoms such as anxiety, depression, lability, irritability and aggression in patients with a history of concussions, this association has not led to *conclusive causation*. Many of these symptoms are common in healthy individuals and increase under stressful situations unrelated to brain trauma. It remains a challenge with an individual patient to discern whether or not these symptoms are a consequence of a head injury or associated with comorbidities (e.g., preexisting stress and social difficulties, learning disabilities, alcohol or drug abuse, etc.), secondary to dealing with the medical-legal environment or related to a combination of these factors.

15. I am aware of the published information defining CTE as a syndrome of neurobehavioral change and pathological tau deposition in the brain, reported in individuals with a prior history of sports activities, military service, and/or concussions. I am also aware that the Settlement does not provide compensation for players who are alive and claim to suffer from CTE.

16. Currently, CTE is defined as a pathological process reflecting cerebral atrophy and excessive tau protein accumulation. It has been described in a heterogeneous case series, with small sample size. It is inferred to be progressive, but no longitudinal studies have been conducted. There are no epidemiological studies that permit accurate determination of incidence, risk, or causality. The reported symptomatology and clinical presentation includes a range of cognitive dysfunctions and impairments in the various cognitive domains, including

memory impairment, executive dysfunction, impaired concentration/attention impairment, language impairment, visuospatial difficulties, and, in its more advanced form, dementia. Behavioral symptoms have similarly been described, including aggression, disinhibition, depression, suicidality, etc. A number of co-morbid neurodegenerative conditions have been described in patients observed to have CTE, including ALS, Alzheimer's disease, Parkinson's disease, and frontotemporal dementia. The current description of CTE symptomatology, however, is confounded by the retrospective nature of the data collection and the limited database used. Thus, the reported clinical observations are subject to selection bias. Since CTE is currently diagnosable only post-mortem, there are no published epidemiological, cross-sectional or prospective studies relating to CTE. Because of the lack of currently available biomarkers to observe the natural history of CTE, characterization of preclinical and prodromal CTE is premature. See Jordan BD., The Clinical spectrum of sport-related traumatic brain injury. Nat Rev Neurol 2013; 9:222-30.

17. There have been a few publications that represent early efforts to develop diagnostic tools to study the brains of living subjects and reach scientific or clinical conclusions regarding CTE. These studies have multiple limitations, including small sample size, no longitudinal component, and limited specificity of the diagnostic tool. It is also important to observe that varying levels of cerebral tau aggregation are found in the brain due to many conditions, such as Alzheimer's disease, frontotemporal dementia, moderate to severe traumatic brain injury, Parkinson's disease, and normal aging.

18. There is ongoing discussion in the scientific community but general agreement that our understanding of CTE is early and incomplete with regards to causality, epidemiology and clinical characterization. *See, e.g., Report on the Neuropathology of Chronic Traumatic*

Encephalopathy Workshop, National Institutes of Health, (Dec. 5-6, 2012); *Sports Related Concussions in Youth: Improving the Science, Changing the Culture*, Institute of Medicine, (Oct. 30, 2013); McCrory P. et al., *Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport held in Zurich*, 250 BR. J. SPORTS MED. 58 (2013); and Giza C., Kutcher J., et al., Neurol (2013) full-length version of the “Evidence-based Guideline Update: Evaluation and Management of Concussion in Sports: Report of the Guideline Development Subcommittee of the American Academy of Neurology” available at: http://www.neurology.org/content/suppl/2013/03/20/WNL.0b013e31828d57dd.DC1/Full-length_sports_concussion_guideline.pdf. Much work remains to identify useful, validated biomarkers that provide information about the risk factors, causes and mechanisms of CTE.

19. The current clinical and pathological descriptions of CTE are important first steps in our understanding of long term brain changes that may be associated with TBI/concussion. However, the nature of case report and case series studies precludes accurate determination of incidence, prevalence or causality. The existing published research, while important, is not yet sufficient for the scientific community to make key conclusions regarding CTE and prospective, longitudinal studies are needed. Because of these limitations any assumptions about a causal association between CTE and mild concussions or subconcussive brain injuries are premature. Similarly, any assumptions regarding symptoms that constitute the diagnostic and clinical profile of CTE also are premature.

20. Chronic neurocognitive impairment (CNI) is distinct from chronic traumatic encephalopathy (CTE). There is good evidence of measurable neurocognitive impairment (using neuropsychological testing) in professional athletes while alive. Studies in professional boxing, football, soccer, rugby and horseracing detect some degree of CNI, in most cases related to the

level of exposure to the sport. This “dose-response” implies a causal relationship. In amateur sports, however, some level of CNI is reported in about half of published studies, and not in the other half.

21. More broadly, there are certain neurologic and neurodegenerative syndromes that have been associated through epidemiological study in patients with traumatic brain injury of varying severities. These include ALS, Parkinson’s disease, Alzheimer’s disease, and dementia. See Graves A.B., 1990, The Association Between Head Trauma and Alzheimer’s Disease, Am. J. Epidemiol. 131:491 (statistically significant association between history of head trauma and Alzheimer’s disease); Chen H., 2007, Head Injury and Amyotrophic Lateral Sclerosis, Am. J. Epidemiol. 166:810-816 (three times increased risk of ALS among people suffering more than one head injury); and Harris A., 2013, Head Injuries and Parkinson’s Disease in a Case-Control Study, Occup. Environ. Med. 70:839-44 (statistically significant association between Parkinson’s disease and prior TBI, including concussions). Similar findings exist for dementia. Lee Y.K., 2013, Increased Risk of Dementia in Patients with Mild Traumatic Brain Injury: A Nationwide Cohort Study, PLoS One 8:1-7 (statistically significant three times increased risk of dementia in patients with prior reports of mTBI).

22. My statements and views included in this declaration are mine alone and do not reflect those of UCLA or any of the departments or centers with which I am associated. I have not received any financial payments for preparing this Declaration from any source, including any attorney or plaintiff in this case. I have requested that any monies paid for the work conducted in this matter be made payable to the Regents of the University of California which allows the money to be used for research and teaching activities.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: November 11, 2014

Los Angeles, CA



Christopher G. Giza, MD

TAB A

CHRISTOPHER C. GIZA, M.D.

Research/Administrative:

Room 18-218B Semel Institute Mail Code 703919
UCLA Brain Injury Research Center
Department of Neurosurgery
David Geffen School of Medicine at UCLA
Los Angeles, CA 90095
Research: (310) 206-0588

Clinical/Patient Related:

Room 22-474 MDCC
Division of Pediatric Neurology
Mattel Children's Hospital - UCLA
David Geffen School of Medicine at UCLA
Los Angeles, CA 90095
Clinical: (310) 825-6196

EDUCATION

1986 A.B. **Dartmouth College**, Hanover, NH. High honors in biochemistry.

1990 M.D. **West Virginia University School of Medicine**, Morgantown, WV

1990-1991 **Intern**, Department of Medicine, Hospital of the University of Pennsylvania, Philadelphia, PA

1991-1994 **Resident**, Department of Neurology, UCLA Medical Center, Los Angeles, CA

1994-1996 **Clinical Fellow**, Division of Pediatric Neurology, Department of Pediatrics, Mattel Children's Hospital at UCLA, Los Angeles, CA

2008 **Clinical Trial Methods, Course in Neurology**. Sponsored by NINDS. One week intensive course of clinical trial training. Vail, CO.

LICENSURE

California Medical License G074189, current.

BOARD CERTIFICATION

Diplomate, American Board of Psychiatry and Neurology, certified in Neurology with Special Qualifications in Child Neurology, 1998-2008. Maintenance of certification exam passed, 3/23/2009-3/22/2019, certificate number 1133.

PROFESSIONAL EXPERIENCE

1996-1997 **Private Practice Physician**, locum tenens. Long Beach Memorial Medical Center. Long Beach, CA

1996-1997 **Search and Rescue Team Member**, Yosemite National Park, CA

1997-1998 **Staff Research Assistant IV**, Neuropsychiatric Institute and Div of Pediatric Neurology, UCLA Medical Center and UCLA Children's Hospital, Los Angeles, CA

1997-1998 **Private Practice Physician**, locum tenens. Neurologic Associates of the Valley Medical Group, West Hills, CA

1998-2000 **Postdoctoral Fellow**, Division of Neurosurgery, Department of Surgery, UCLA Medical Center and Brain Injury Research Center, Los Angeles, CA

2000-2001 **Assistant Researcher**, Division of Neurosurgery, Department of Surgery, UCLA Medical Center and Brain Injury Research Center, Los Angeles, CA

2001-2007 **Assistant Professor In-Residence**, Divisions of Neurosurgery and Pediatric Neurology, David Geffen School of Medicine at UCLA, Mattel Children's Hospital at UCLA, Los Angeles, CA

2002- **Member**, UCLA Brain Research Institute, Los Angeles, CA

2006-2007	Assistant Professor In-Residence , UCLA Interdepartmental Program for Neuroscience, Los Angeles, CA
2006-	Member , Critical Care at Mattel Children's Hospital - UCLA Program, Los Angeles, CA
2007	Assistant Professor In-Residence , UCLA Interdepartmental Program in Biomedical Engineering, Los Angeles, CA
2007-2011	Associate Professor In-Residence , Department of Neurosurgery; Division of Pediatric Neurology, Department of Pediatrics; Interdepartmental Programs for Neurosciences and Biomedical Engineering; David Geffen School of Medicine at UCLA & Mattel Children's Hospital - UCLA, Los Angeles, CA
2011-2013	Associate Professor , Division of Pediatric Neurology, Department of Pediatrics; Department of Neurosurgery; Interdepartmental Programs for Neurosciences and Biomedical Engineering; Mattel Children's Hospital - UCLA & David Geffen School of Medicine at UCLA, Los Angeles, CA
2013-	Professor , Division of Pediatric Neurology, Department of Pediatrics; Department of Neurosurgery; Interdepartmental Programs for Neurosciences and Biomedical Engineering; Mattel Children's Hospital - UCLA & David Geffen School of Medicine at UCLA, Los Angeles, CA
2014-	Director , UCLA Steve Tisch BrainSPORT Program, Division of Pediatric Neurology, Department of Pediatrics; Department of Neurosurgery; Mattel Children's Hospital - UCLA & David Geffen School of Medicine at UCLA, Los Angeles, CA

PROFESSIONAL ACTIVITIES

Alpha Omega Alpha Medical Honor Society, Member 1988-present.

American Academy of Neurology, Member 1994-present.

- Co-chair. American Academy of Neurology Committee to author Evidence-based Guidelines for Assessment and Acute Management of Sports Concussion in Children and Adults, June 29, 2009-present.
- Member, Sports Neurology Section. November 1, 2009-present.
- Panel member, Sports Neurology Section meeting, case reviews. AAN annual meeting, Toronto, ON, Canada. April 14, 2010.
- Co-author. **Giza** CC, Kutcher J. American Academy of Neurology Sports Concussion Reference Sheets: for Coaches and Physical Education Teachers; for Clinicians; 2011.
- Panel member, Traumatic Brain Injury/Concussion brain health classes, AAN Brain Health Fair; Honolulu, HI. April 9, 2011.
- Co-organizer. American Academy of Neurology representative to the Food and Drug Administration Workshop, Assuring the Safety and Effectiveness of Seizure, Cognitive Function, and TBI/Sports Concussion Diagnostic Devices. Co-moderator of a TBI/concussion breakout session November 2010-present. Workshop held 6/2-3/11.
- Member, Spinal Cord, Nerve Root Disorders and Rehabilitation Topic Work Group (TWG). Reviews proposals and develops educational program for AAN annual meeting 2012. January-June 2011.
- Councilor, Sports Neurology Section Executive Committee, elected for term from April 2012 – April 2014.
- Topic chair, Sports Neurology Section, selected reviewers, organized abstracts and chaired sports neurology abstract session at annual meeting. August 2012-2014.
- Representative, selected as one of the official AAN representatives to President Barack Obama's White House Healthy Kids & Safe Sports Summit. May 29, 2014.
- Co-director. American Academy of Neurology Sports Concussion Conference, first-ever multidisciplinary disorder-specific medical conference sponsored by AAN. Chicago, IL. July 11-13, 2014. Registered attendees >460.
- Guest editor. Sports Neurology issue of *Continuum*. 2014.

American Academy of Pediatrics

- Author. **Giza CC.** It's Not Child's Play: Concussions in Youth article for the AAP Southern California Newsletter, Fall 2012.

American Alpine Club, Member 2002-present.

American Board of Physical Medicine and Rehabilitation

- Brain Injury Medicine Board Exam writer 2012-2013.

Child Neurology Society, Member 1994-present.

- Organizer/moderator. Session titled "Traumatic Brain Injury: Advances in Management and Emerging Treatment Options" at the Child Neurology Society 37th Annual Meeting. Santa Clara, CA. November 8, 2008.
- Organizer/moderator. Symposium titled "It's Not All Fun and Games: Understanding Sports Concussions from Pathophysiology to Clinical Care" at the Child Neurology Society 39th Annual Meeting. Providence, RI. October 16th, 2010.
- Co-organizer. Symposium titled "Saving the Brain: Opportunities in Pediatric Neurocritical Care" for the Child Neurology Society 40th Annual Meeting. Savannah, GA. October 27th, 2011.
- Co-organizer. Symposium titled "Little Brains, Big Problems: Lasting Effects of Pediatric TBI" for the Child Neurology Society 42nd Annual Meeting. Austin, TX. October 31st, 2013.
- Member, Scientific Selection & Program Planning Committee. Responsible for scientific review and selection of symposia for annual Child Neurology Society meeting. Dec. 2011-present.
- Founding Member, Traumatic Brain Injury Special Interest Group. With Heidi Blume and Howard Goodkin. First meeting, Huntington Beach, CA, November 1, 2012-present.
- Member, Research Committee. Responsible for providing research and training information to the society, and providing feedback from CNS to representatives from NIH. 2011-present.

International Neurotrauma Society, Member 1999-present.

- Co-chair. Session titled "Controversies in Neurotrauma: A World View". 2nd Joint Symposium of the International and National Neurotrauma Societies, Santa Barbara, CA. September 9, 2009.
- Chair, Local Scientific Advisory Committee, February 23, 2007-September 11, 2009, and
- Secretariat, October, 2008 – September 11, 2009. 2nd Joint Symposium of the International and National Neurotrauma Societies, combined with the Neurotrauma and Critical Care Section of the American Academy of Neurological Surgeons/Congress of Neurological Surgeons and the University of California (UC) Neurotrauma Society Meeting – Neurotrauma 2009, Santa Barbara, CA; September 7-11, 2009.
- Member, International Neurotrauma Society Scientific Advisory Board. September 11, 2009-2010. Committee to oversee the scientific program for the INTS meetings.

National Neurotrauma Society, Member 1998-present.

- Judge. Student Poster Competition. Annual National Neurotrauma Society Symposia, Biloxi, MS. November 6-7th 2003. Washington, DC. November 10-11th 2005. Las Vegas, NV, June 14, 2010.
- Abstract Reviewer. Annual National Neurotrauma Society Symposium, rated and selected abstracts for presentation, 2005, 2011.
- Mentor. Women in Neurotrauma Research (WINTR) Annual Mentoring Session at Annual National Neurotrauma Society Symposia, St. Louis, MO, July 8, 2006. Kansas City, MO, July 2, 2007. Orlando, FL, July 29, 2008. Santa Barbara, CA, September 9, 2009. Las Vegas, NV, June 15, 2010. Fort Lauderdale, 2011. Phoenix, AZ, 2012. Nashville, TN, 2013.
- Co-chair. Session titled "Pathophysiology of Pediatric Traumatic Brain Injury". 26th Annual National Neurotrauma Society Symposium, Orlando, FL. July 29, 2008.
- Chair and organizer. Session titled "Pediatric TBI". 32nd Annual National Neurotrauma Society Symposium, San Francisco, CA. June 30, 2014.

Pediatric Neurocritical Care Research Group, Founding member, 2008-present.

- Moderator: Session on ICU management and monitoring at the Pediatric Neurocritical Care Investigator's meeting, Chicago, IL, September 26-28, 2008.

- Founding member, Translational Biology of Disease subcommittee. March 9, 2010-present.

Society for Neuroscience, Member 1999-present.

University of California Neurotrauma Society, Founding member 1999-present.

- Co-chair and organizer. Session on Cerebral Development and Traumatic Brain Injury. 3rd Annual UC Neurotrauma meeting, August 8th, 2002, Silverado/Napa, CA.
4th Annual UC Neurotrauma meeting, August 21st, 2003, La Jolla, CA
5th Annual UC Neurotrauma meeting, August 20th, 2004, Carmel, CA.
6th Annual UC Neurotrauma meeting, August 10th, 2005, Ojai, CA.
7th Annual UC Neurotrauma meeting, August 4th, 2006, Carmel, CA.
- Co-organizer. Organized scientific program and guest speakers for entire UC Neurotrauma meeting.
8th Annual UC Neurotrauma meeting, September 23-25th, 2007, Santa Barbara, CA.
9th Annual UC Neurotrauma meeting, June 23-25th, 2008. Carmel, CA.
10th Annual UC Neurotrauma meeting, September 7-11th, 2009. Santa Barbara, CA (see INTS, above).
11th Annual UC Neurotrauma meeting, August 22-24th, 2010. Los Gatos, CA.
12th Annual UC Neurotrauma meeting, September 25-27th, 2011. Santa Barbara, CA.
13th Annual UC Neurotrauma meeting, September 9-11th, 2012. Sonoma, CA.
14th Annual UC Neurotrauma meeting, September 22-24th, 2013. Santa Barbara, CA.
15th Annual UC Neurotrauma meeting, planned September 14-16th, 2014. Carmel, CA

Wilderness Medical Society, Member 2001-present.

Ad hoc journal reviewer: *Annals of Neurology* (2012), *Brain* (2008), *Cerebral Cortex* (2011-2), *Developmental Neuroscience* (2003, 2006, 2010), *Experimental Neurology* (2007, 2012), *JAMA* (2013, 2014), *Journal of Child Neurology* (2014), *Journal of Neurotrauma* (2006-2011, 2013), *Journal of Neurosurgery* (2007), *Journal of Cerebral Blood Flow and Metabolism* (2001), *Journal of Neurochemistry* (2007, 2010), *Neurobiology of Disease* (2005), *Neurology Research International* (2011); *Neurorehabilitation and Neural Repair* (2010), *Neurosurgery* (2007, 2008), *Pediatric Neurology* (2007-2013), *Pediatric Research* (2004), *Pediatrics* (2008-2009), *PM&R* (2010), *Psychiatric Times* (2000), *Surgical Neurology* (2004, 2007).

Grant reviews:

University of North Carolina Injury Prevention Research Center (1 proposal), 2003.

Netherlands Organization for Scientific Research (NWO), Earth and Life Sciences (ALW) Open Program, Den Haag, The Netherlands, (1 proposal) 2006.

Citizens United for Research in Epilepsy (CURE), American Institute of Biological Sciences (AIBS), US Army Medical Research and Materiel Command (USAMRMC), Department of Defense, Reston, VA, (2 proposals) 2007.

Department of Defense Concept Awards. American Institute of Biological Sciences (AIBS), US Army Medical Research and Materiel Command (USAMRMC), Reston, VA, (8 proposals) 2007.

University of Kansas Lied Endowed Basic Science Pilot Research Fund, KU Medical Center Research Institute, (2 proposals) 2008.

Program Reviewer, Department of Defense. Task Area H: Penetrating Brain Trauma & Neuroprotection Research Program, Combat Casualty Care Research Program (CCCRP), Walter Reed Army Institute of Research (WRAIR), Silver Spring, MD. February 3-4, 2009.

National Institutes of Health / National Institute of Neurological Disorders and Stroke, ZRG1 BDCN-T 58 R, Challenge Grant Panel 11. (3 proposals) June 2009.

Barrow Neurological Institute Neurology Research Grants, (4 proposals) October 21, 2009 – Jan 4, 2010.

Congressionally Directed Medical Research Program (CDMRP): Psychological Health/Traumatic Brain Injury Research Program (PH/TBIRP), Department of Defense, (8 proposals) December 13-15, 2009, Reston, VA.

UCLA Child Health Research Career Development Award, (1 proposal) November 2012.

Thrasher Research Fund (1 proposal) March 2013.

UCLA Faculty Grants Program (2 proposals) April 2013.

UCLA Children's Discovery and Innovation Institute (1 proposal) December 2013.

Other completed activities

Co-chair. Session on Mild Traumatic Brain Injury. 14th Annual Meeting of the Indian Neurotrauma Society, Kolkata (Calcutta), India. August 19th, 2005.

Panel Member, Medical Decision Making: An Interactive Session with Parents and Professionals at the 3rd Annual Pediatric Brain Injury Conference, Miller School of Medicine, University of Miami, Miami, FL. November 5th, 2005.

Panel Member, Ask the Experts Roundtable, Understanding Sports-Related Concussion: Are We Headed in the Right Direction? at the National Athletic Trainers Association annual meeting, June 29th, 2007, Anaheim, CA.

Scientific Planning Committee. 4th International Meeting on Mild Traumatic Brain Injury in Sports. San Moritz, Switzerland. March 10-15, 2008. Co-chair – session on Assessment of mild TBI and session on Pediatric Aspects of mild TBI.

Member, Traumatic Brain Injury Common Data Elements, Pediatric TBI Committee, sponsored by the National Institutes of Neurological Disorders and Stroke (NINDS/NIH), working group on Demographics and Acute Clinical Assessment, September 7, 2009 – May, 2011.

Panel Member, Discussion of future concussion research, education and advocacy. Discussion of management of concussion cases. Big Sky Athletic Training Sports Medicine Conference 2012, Big Sky, MT. January 29th and 30th, 2012.

Invited Participant, National Conference on Youth Sports Safety. Protecting Athletes and Sports Safety (PASS). Hosted by Dr. David Satcher. Washington, DC. November 7-8, 2013.

Invited Participant, Safe Sports Think Tank: Exploring the relationship between childhood sports-related concussions and long-term cognitive outcomes, sponsored by the Andrews Institute, Alzheimer's Drug Discovery Foundation and Safe Kids Worldwide. Washington, DC. November 25, 2013.

Ongoing activities

Member. Data Safety Monitoring Board, October 28, 2008-present, A Study of Intrathecal Enzyme Replacement Therapy for Spinal Cord Compression in Mucopolysaccharidosis I and An Extension Study of Intrathecal Enzyme Replacement Therapy for Spinal Cord Compression in Mucopolysaccharidosis I. Principal investigator: Patricia Dickson, MD, Los Angeles Biomedical Institute at Harbor-UCLA Medical Center.

COMMUNITY/UNIVERSITY SERVICE

COMPLETED SERVICE

"ICU Management of Traumatic Brain Injury" lecture for nursing staff at Northridge Hospital Medical Center, Roscoe Campus. March 24, 1999.

Symposium in Emergency Medicine Conference: "Secondary Insults following Traumatic Brain Injury" lecture to emergency room personnel and paramedics. April 18, 2001.

"What's up with Stereology?" lecture for researchers from multiple laboratories. UCLA Brain Research Institute. August 28, 2001.

"It was Just a Bump on the Head" lecture to social workers at Orange County Social Services Agency. Orange, CA. November 6, 2001.

Sagebrush Medical Clinic, Attending Physician, Pediatric Neurology. Bakersfield, Kern County, CA. 2001-2004.

Grant Reviewer, UCLA Brain Injury Research Center, University of California Neurotrauma grant program, 2003.

Reviewer, Health Tips for Parents mailing, "How do I evaluate a head injury?" Mattel Children's Hospital at UCLA, January 2004.

Panel Member, Pediatric Palliative Care Program, 1st Comfort Care Panel. Department of Pediatrics, Mattel Children's Hospital at UCLA. February 22, 2006; March 8, 2006.

Member, Internet and Website Development Committee, Division of Neurosurgery, Geffen School of Medicine at UCLA, 2005-2007.

"Experience-Dependent Plasticity: You Are Your Environment" informative lecture about the importance of environment and consequences of changing animal housing conditions to investigators, veterinarians and laypersons at the UCLA Animal Research Committee meeting. Los Angeles, CA. October 20, 2008.

Panel Member, National Youth Leadership Program: Medicine. University of California, Los Angeles, July 23, 2009.

Olive View – UCLA Medical Center Clinic, Attending Physician, Pediatric Neurology. Sylmar, CA. 2002-2009.

Reviewer/author, Health Tips for Parents mailing, "How dangerous are concussions?" Mattel Children's Hospital - UCLA, January 2011.

Co-organizer, "Little Brains, Big Problems: 1st UCLA Pediatric Traumatic Brain Injury Symposium" at Mattel Children's Hospital – UCLA. June 15, 2013. Half-day symposium discussing recent advances in diagnosis, management and research for pediatric TBI ranging from severe TBI in the ICU to sports concussions in the outpatient setting (approximately 60 attendees).

CONTINUING SERVICE

Organizer, Neurotrauma Journal Club, monthly meetings. February, 2002-present.

Organizer, Pediatric/Developmental Brain Injury Research Group weekly meetings. Basic science meetings January, 2002-present; Clinical pediatric brain injury meetings December, 2003-present.

Civilian Emergency Response Team (CERT), Culver City; training completed March 12, 2005; active member March 2005-present. Participant in city-wide disaster drills, 2006-2010, 2012.

Advisory Board Member, American Association of Multi-Sensory Environments (AAMSE). National organization to promote awareness, access, education, research, and science for people who would benefit from Multi-Sensory Environments (MSE). November 24, 2006-present.

California State Athletic Commission, 2005-present.

Commissioner, appointed by Governor Arnold Schwarzenegger and approved by California State Legislature to California State Athletic Commission, which oversees boxing and contact martial arts competitions in the state of California. June 6, 2005-June 30, 2006

Board Member, California Athletic Commission Program (ACP) appointed by Director Charlene Zettel, California Department of Consumer Affairs, which serves as the transition program for duties previously served by the California State Athletic Commission. July 19, 2006-December 31, 2006.

Commissioner, re-appointed by Governor Arnold Schwarzenegger to California State Athletic Commission, which oversees boxing and contact martial arts competitions and the health and safety of these athletes in the state of California. May 23, 2007-present. Reappointed Jan. 2, 2011.

Vice-Chair, California State Athletic Commission, elected Feb. 22, 2010. – re-elected 2011 – term completed 2012.
Re-elected April 2013.

- Chairman, Medical Advisory Committee on Health and Safety, California Athletic Commission Program (ACP) appointed by ACP Chief Armando Garcia on August 24, 2006 and later confirmed by the California State Athletic Commission on August 6, 2007.
- Physician Liability and Malpractice subcommittee, appointed by CSAC Chair June Griffith-Collison. August 6, 2007-April 14, 2009.
- Executive Officer Search committee, appointed by CSAC Chair Tim Noonan, again by acting chair Mario Rodriguez. November, 2008-December, 2009.
- Commission recognized with the "*Commission of the Year*" Award for 2009 by the World Boxing Council, in competition with all boxing commissions worldwide.
- Doping and Drugs of Abuse subcommittee, appointed by CSAC Chair Tim Noonan. February 5, 2008-11.

- Muay Thai subcommittee, appointed by appointed by CSAC Chair Mario Rodriguez. December, 2009-11.
- Committee organizer and advisor, Medical Advisory Committee on Health and Safety, 2010-present.
- Transgender Athlete policy subcommittee, appointed by CSAC Chair John Frierson, April 2013-present.
- Neurological Evaluation subcommittee, appointed by CSAC Chair John Frierson, June 2013-present.

Centers for Disease Control, 2011-present

Reviewer. Head's Up! CDC Concussion education video.

Chair, Subcommittee on more severe acute impairment after pediatric mild TBI. October 2012 – present. Pediatric Mild TBI Guideline Work Group on the Acute Diagnosis and Management of Children and Adolescents with Mild TBI.

Department of Defense, 2009-present.

Panel Member, Blue Ribbon Symposium on Traumatic Brain Injury and Post-Traumatic Stress Disorder, Department of Defense, Uniformed Services University of Health Sciences, September 1-2, 2009, Bethesda, MD. Panel has been mandated by Vice Chiefs of Staff of U.S. Army and U.S. Marine Corps (Generals Chiarelli and Amos) to develop a protocol for mTBI and PTSD evaluation and intervention for rapid implementation in Iraq and Afghanistan.

Member, National Intrepid Center of Excellence (NICoE) Roundtable, panel convened to brainstorm ideas and priorities for the newly opened NICoE Brain Injury Center, Bethesda MD, June 25th, 2010.

Panel Member, Blue Ribbon Symposium II on Traumatic Brain Injury and Post-Traumatic Stress, Department of Defense, National Intrepid Center of Excellence, December 16-17, 2010, Bethesda, MD. Convened by Vice Chiefs of Staff of U.S. Army and U.S. Marine Corps (Generals Chiarelli and Dunsford). Reviewed implementation of protocols for mTBI developed with BRSI. Panel mandated to complete PTSD protocol, optimize mTBI protocols now in place, and to propose research investigations to better understand and treat both mTBI and PTS.

Civilian Member, Gray Team III, Joint Chiefs of Staff, Jan 8-22, 2011. Mandated by Chairman of the Joint Chiefs of Staff (Admiral Mullen). Combined civilian and military expert team sent to Afghanistan to review and advise on clinical protocols for optimal management and advanced diagnostics for TBI in theater. Visited and reviewed existing TBI programs at Bagram Air Field (BAF), Forward Operating Base (FOB) Sharana, Kandahar Air Field (KAF) and Camp Leatherneck.

Team Member, Operation MEND, David Geffen School of Medicine at UCLA, 2011-present. Provide TBI research and clinical care updates to OpMEND team and visiting military personnel. On site clinical neurological evaluations of selected OpMEND service members.

Institute of Medicine

- Reviewer, Evidence-based report on use of Cognitive Rehabilitation Therapy for Traumatic Brain Injury, sponsored by the Department of Defense in conjunction with the Institute of Medicine (IOM), July – August 2011.
- Presenter, AAN Evidence-Based Concussion Guidelines: Focus on Youth Concussions at the Institute of Medicine meeting, Seattle, WA. April 15th, 2013.

Major League Soccer, 2012-present. Selected as Neurologist to the Concussion Program Committee for professional soccer.

- MLS Combine and Medical Symposium, January 12th, 2013. January 11th, 2014. Fort Lauderdale, FL.
- MLS Concussion Program Committee meeting, July 31st, 2013. Kansas City, KS.

National Collegiate Athletic Association, Concussion Task Force, 2013-present. Provide recommendations for sports concussion awareness, education and management for collegiate sports.

- NCAA Concussion Task Force meeting, April 12-13th, 2013. Indianapolis, IN. Presented talks on the Pathophysiology of Concussion and Long-term Cognitive and Behavioral Sequelae of Sports Related Concussion.

National Hockey League and Players' Association

- Consultant, 2012-present. Provide clinical recommendations in selected cases requiring neurological expertise.
- Second medical opinion physician, 2013-present. Nominated to serve as an independent second medical opinion in selected cases requiring neurological expertise.

National Football League Neurological Care Program

- Selected as one of six sites nationally to provide comprehensive neurological assessment and care for retired NFL athletes.
- NFL Neurological Care Program group meeting, October 11, 2013. New York City, NY.

Ontario Neurotrauma Foundation, 2013-present.

- Member, committee to develop Canadian Pediatric mild traumatic brain injury clinical guidelines. Meeting, November 19th, 2013. Ottawa, ON.
- Zemek R, Duval S, Dematteo C, Solomon B, Keightley M, Osmond M, Giza CC, et al. (2014). *Guidelines for Diagnosing and Managing Pediatric Concussion*. Toronto, ON: Ontario Neurotrauma Foundation. download free at <http://onf.org/documents/guidelines-for-pediatric-concussion>.

Pediatric Acquired Brain Injury Plan, 2008-present.

Pediatric Acquired Brain Injury Plan / Sarah Jane Brain Foundation. National movement combining efforts of pediatric brain injury experts with a parent-initiated foundation to promote awareness, educate the public, prioritize research directions and establish public policy to provide resources and care for children who have experienced acquired / traumatic brain injuries.

- Advisory Board Member, October 29, 2008-present.
- Director, State Lead Center for California, Pediatric Acquired Brain Injury Plan, May 2, 2009-present.
- Executive Steering Committee Member, December 21, 2009-present.
- Panel member, Sarah Jane Brain Foundation town hall meeting, Concussion Summit, Inglewood, CA, May 6, 2011.

UCLA, David Geffen School of Medicine and Mattel Children's Hospital

Faculty Search Committees, UCLA Department of Neurosurgery, 2010; 2012.

Grand Rounds Committee, Department of Pediatrics, Mattel Children's Hospital – UCLA. October 2010-present.

Clinical Operations Committee, Operation MEND, David Geffen School of Medicine at UCLA. January 2012 – present.

Representative, selected as the official UCLA representative to President Barack Obama's White House Healthy Kids & Safe Sports Summit. May 29, 2014.

HONORS AND AWARDS

1982	National Merit Scholar
1985-1986	Rufus Choate Scholar (top 5% in class)
1986	Sigma Xi Scientific Research Society Grant-in-Aid of Research
1987	Alpha Omega Alpha Medical Student Research Grant
1988-	Alpha Omega Alpha Medical Honor Society
1989-1990	American Bureau for Medical Advancement in China/ Warner-Lambert Fellowship
1989-1990	Vice-President, Medical School senior class
1989-1990	Herschel C. Price Educational Foundation Grant
1996	Mead Johnson Award for Teaching Excellence in Pediatrics
1998-1999	Lind Lawrence Foundation Postdoctoral Fellow

1998	International Society for Cerebral Blood Flow and Metabolism, Junior Delegate Bursary Award
2001, 2002	University of California Neurotrauma Travel Fellowship
2001-2002	<i>Journal of Athletic Training</i> Clint Thompson Award 1 st runner-up for Outstanding Non-Research Manuscript, "The Neurometabolic Cascade of Concussion"
2002-2003	American Alpine Club Research Grant Award
2002-2003	UCLA Brain Injury Research Center Young Investigator Award
2005	UCLA Council on Research Conference Travel Grant for invited lectures at the 14 th Annual Conference of the Neurotrauma Society of India
2005	P.S. Ramani Oration Recipient at the 14 th Annual Conference for the Neurotrauma Society of India
2007	Visiting Professor, Pepperdine University, Malibu, CA. June 19 th
2007-2009	Shields Fellow, UCLA; supported by the Winokur Family Foundation thru the Child Neurology Foundation
2009	Paul R. Dyken Scholarship Lecturer at the 34 th Annual Meeting of the Southern Pediatric Neurology Society
2010	Today's and Tomorrow's Children Fund (TTCF) Award - Grand Prize Recipient - \$175,000
2011	Professional in the Field Award, Brain Injury Association of California
2011	Honored Guest and Speaker: J. Richard Baringer Graduation Symposium at the University of Utah
2010-2014	Selected to Southern California Super Doctors
2012	Distinguished Lecturer Seminar Series, Children's Memorial Research Center, Northwestern University
2014	Matson Memorial Lecturer, American Association of Neurological Surgeons, Section on Pediatric Neurological Surgery
2014	Zackery Lystedt Angel Award, Sarah Jane Brain Foundation - in recognition of national efforts to prevent and treat pediatric traumatic brain injury and concussions.
2014	Invited guest, President Barack Obama's White House Healthy Kids & Safe Sports Summit. UCLA Steve Tisch BrainSPORT program selected and highlighted as a Summit Action Commitment.

RESEARCH GRANTS, CURRENT

Reconnection of Neural Networks and Cognitive Recovery after Pediatric TBI. NINDS/NIH R01 HD061504. 5/1/10-4/30/15. Principal Investigator: RF Asarnow. Co-investigators: CC **Giza**, P Thompson. Annual direct costs requested: \$390,000. Total direct costs requested: \$1,950,000.

Blueprint for Implementing the Pediatric Traumatic Brain Injury Guidelines. NINDS/NIH R01 NS072308. 4/1/11-3/31/15. Principal Investigator: M Vavilala. Co-investigators: M Bell, CC **Giza**, M Wainwright, R Mink. No salary taken, subcontracted with Harbor-UCLA.

The National Sport Concussion Outcomes Study: Phase 1 – The Role of Equipment and Head Impact Exposure on Neurological Outcomes. National Collegiate Athletic Association (NCAA) Sport Concussion Research Study. 12/21/12-12/31/16. Co-PIs: SP Broglio, JT Eckner, CC **Giza**, KM Guskiewicz, JS Kutcher, M McCrea. Total direct costs: \$399,850 over 4 years. Total UCLA direct costs: \$55,110 over 4 years.

High Frequency Oscillation as a Biomarker in Childhood Epilepsy. NINDS/NIH R01 NS082649. 5/15/13-5/14/18. Principal Investigator: JY Wu. Investigator: CC **Giza**, JT Lerner. Annual direct costs: \$250,000.

Using glutamatergic pharmacotherapy to optimize TBI recovery. NINDS/NIH R01 NS027544-14. 7/1/13-6/30/18. Principal Investigator: DA Hovda. Co-investigators: CC **Giza**, NG Harris, ML Prins. Annual direct costs: \$218,750. Total direct costs: \$1,093,750 over 5 years.

It's Not Child's Play: Developing an Evidence-Based Approach to Youth Sports Concussions. Joseph Drown Foundation. June 15, 2013-June 14, 2014; renewed until June 14, 2015. Principal Investigator: CC **Giza**. Total direct costs: \$200,000 over 2 years.

Augmentation of Cognitive Training in Children with TBI with D-Cycloserine. NINDS/NIH R21. 2013-2015. Principal Investigator: RF Asarnow. Co-investigators: T Babikian, S Bookheimer, MS Cohen, CC **Giza**. Total direct costs: \$150,000 for 2 years.

The Ketogenic Diet for Neuroprotection after Acute Brain Injury. UCLA Children's Discovery and Innovation Institute Seed Grant. Dec 19, 2013. Principal Investigator: JH Matsumoto. Investigators: ML Prins, A Madikians, CC Giza. Total direct costs: \$25,000.

UCLA Program in Memory Restoration. DARPA-14-08-RAM-PA-010. 2014-2018. Principal Investigator: I Fried. Investigators: D Markovic, M Mehta, D Hovda, CC Giza, Bisley J, A Sayed, Vespa PM. Total direct costs requested for entire project: \$15,000,000 over 4 years.

UCLA Steve Tisch BrainSPORT Program. Private donation. Director, CC Giza. 5/29/14-ongoing with endowment. Research and clinical support for program designed to advance Sports concussion Prevention Outreach Research & Teaching (SPORT). Total award: \$10,000,000 over 5 years (partial endowment).

NCAA-DOD Grand Alliance: Concussion Assessment Research and Education (CARE) Consortium – Clinical Study Core (CSC). 8/1/14-7/31/18. Research Consortium Co-Chairs (T McAllister, M McCrea, S Broglio). Site PI: CC Giza; co-PI: J DiFiori. Annual direct costs: \$149,949. Total direct costs: \$449,848 over 3 years.

NCAA-DOD Grand Alliance: Concussion Advanced Research Core (ARC). 8/1/14-7/31/17. PI: M McCrea. Site PI: CC Giza, J DiFiori. Selected as one of three sites nationally for advanced prospective data collection. Annual direct costs: \$243,176. Total direct costs: \$729,528 over 3 years.

RESEARCH GRANT APPLICATIONS SUBMITTED / PENDING

Repeat Traumatic Brain Injury. NINDS/NIH R01 NS073902-01. Submitted 2/5/12. Principal Investigator: MP Prins. Investigator: CC Giza. Annual direct costs requested: \$250,000. Total direct costs requested: \$1,250,000.

MRI and PET Premorbid Identification of Neurodegeneration in Retired Football Players. NINDS/NIH R01. Submitted: 6/5/12. Principal Investigator: GW Small. Investigators: J Bailes, J Barrio, S Bookheimer, CC Giza, DA Hovda, B Omalu. In revision.

RESEARCH GRANTS, COMPLETED

EXTRAMURAL

Loss of Developmental Plasticity after Head Injury. NINDS/NIH R01 NS27544, 5/1/01-4/30/04. Extension 5/1/04-4/30/05. Principal Investigator: DA Hovda. Investigators: CC Giza, MV Sofroniew, F Gomez-Pinilla. Annual direct costs: \$200,000. Total direct costs: \$600,000.

NMDA Receptor Dysfunction after Traumatic Brain Injury. NINDS/NIH K08 NS02197, 9/1/02-8/31/07. Principal Investigator: CC Giza 77%. Mentor: DA Hovda. Annual direct costs: \$162,324. Total direct costs: \$811,620.

Epileptogenicity in the Developing Brain. NINDS/NIH R01 NS046516, 2/1/04-1/31/08. Principal Investigator: R Sankar. Consultant: CC Giza. Annual direct costs: \$208,000. Total direct costs: \$832,000.

Metabolism of Alternative Fuels Following Developmental Traumatic Brain Injury. NINDS/NIH R01, NS052406, 6/1/05-5/31/08. No cost extension to 5/31/09. Principal Investigator: Mayumi L. Prins. Investigators: CC Giza 2.5%, B Bartnik, NG Harris, DA Hovda. Annual direct costs: \$175,000. Total direct costs: \$525,000.

Enhancing Recovery after Pediatric TBI: Translating Basic Neurobiology to Clinical Intervention. Supported by the Child Neurology Foundation & the Winokur Family Foundation. Shields Fellow, 8/8/07-8/7/09. Principal Investigator: CC Giza. Annual direct costs: \$50,000. Total direct costs: \$100,000.

Loss of Developmental Plasticity after Head Injury. NINDS/NIH R01 NS27544, 1/1/06-12/31/09. No cost extension 1/1/10-12/31/10. Principal Investigator: DA Hovda. Investigators: CC Giza, F Gomez-Pinilla, GS Griesbach. Annual direct costs: \$200,000. Total direct costs: \$800,000.

Mechanisms of Enhanced Fear after Diffuse Traumatic Brain Injury. Department of Defense Proposal No. DR080372. 7/1/09-12/31/10. Principal Investigator: CC **Giza**. Co-PIs: M Fanselow, D Hovda. Total direct costs: \$150,000.

Restoration of Plasticity Following Pediatric Traumatic Brain Injury. NINDS/NIH K02 NS057420, 9/1/07-8/31/10. Principal Investigator: CC **Giza** 75%. Investigators: F Gomez-Pinilla, DA Hovda, ML Prins, I Spigelman. Annual direct costs: \$163,584. Total direct costs: \$868,493.

Pathological High Frequency Oscillations as a Potential Biomarker of Post-traumatic Epilepsy. Citizens United for Research in Epilepsy (CURE) in partnership with the Department of Defense. 2010-2011. Principal Investigator: RJ Staba. Investigators: J Engel, CC **Giza**, CL Wilson. Total direct costs: \$44,221.

Long-term Outcome from Repeat Traumatic Brain Injury. NFL Charities. 2011-2012. Principal Investigator: ML Prins. Co-PI: CC **Giza**. Total direct costs: \$100,000.

Early Monitoring for Seizures and Long-term Global Outcomes Following Moderate to Severe Brain Injury in Children. Thrasher Research Foundation, 12/31/08-12/31/11. No cost extension until 12/31/12. Principal Investigator: CC **Giza**. Co-PI: Jason Lerner. Total direct costs: \$296,071.

UCLA Pediatric TBI – Sports Concussion Program. Ronald Reagan UCLA Pediatric Trauma Center - Richie's Fund. 2012-2013. Principal Investigator: CC **Giza**. Total direct costs: \$50,000.

Traumatic Brain Injury Induced Cerebral Metabolic Depression and Recovery. NINDS/NIH P01 NS058489. 5/1/09-4/30/14. Program Director: DA Hovda. Project 2: Age-dependent use of alternative cerebral substrates during TBI-induced glucose metabolic depression. Principal Investigator: ML Prins. Co-investigators: B Bartnik, CC **Giza**, N Harris. Annual direct costs: P50 - \$1,000,000; Project 2 - \$200,000. Supplemental award 2011-12: CC **Giza**, \$60,000.

INTRAMURAL

Glutamate Receptor Changes after Brain Trauma and Environmental Enrichment. UCLA API (Assistant Professor Initiative), 4/1/02-6/30/03. Principal Investigator: CC Giza. Annual direct costs: \$2,000.

Post-Traumatic Seizures in the Developing Brain. University of California Neurotrauma grant, 7/1/02-6/30/03. Principal Investigators: CC **Giza** and R Sankar. Annual direct costs: \$60,000.

Functional Brain Activation Following Pediatric Traumatic Brain Injury. UCLA FRG (Faculty Research Grants Program), 7/1/05-6/30/06. Principal investigators: CC **Giza**, RF Asarnow. Annual direct costs: \$6,000.

Acute Pathophysiological Monitoring and Long-term Functional Outcome after Pediatric Traumatic Brain Injury. UCLA Neurosurgery Seed Grant application. 11/1/06-6/30/07. Principal Investigator: CC **Giza**. Co-Principal Investigators: A Madikians, V Nenov. Annual direct costs: \$20,000.

Headache and Psychiatric Comorbidity Following Mild Pediatric Traumatic Brain Injury (TBI). UCLA FRG (Faculty Research Grants Program), 7/1/06-6/30/07. Principal Investigators: CC **Giza**, R Caplan. Annual direct costs: \$3,000.

Longitudinal Assessment of Behavioral and Biomarker Changes in a Transgenic Rat Model of Alzheimer's Disease. UCLA Alzheimer Disease Research Center (ADRC) Pilot Grant. 1/2007-1/2008. Principal Investigator: EH Teng. Co-Investigator: CC **Giza**.

Neural Network Perturbations and Cognitive Impairment Following Pediatric Traumatic Brain Injury. UCLA FRG (Faculty Research Grants Program), 7/1/07-6/30/08. Principal Investigator: CC **Giza**. Investigator: R Asarnow. Total direct costs: \$3,000.

Connecting the Dots: Mapping White Matter Connectivity after Developmental Brain Injury. UCLA FRG (Faculty Research Grants Program), 7/1/10-6/30/11. Principal investigator: CC **Giza**. Annual direct costs: \$10,000.

Prevention of Traumatic Brain Injury Induced Acceleration of Alzheimer Pathophysiology. UCLA FRG (Faculty Research Grants Program), 7/1/11-6/30/12. Principal Investigator: CC **Giza**, co-PIs: E Teng, ML Prins. Annual direct costs: \$5,000.

INVITED LECTURES AND PRESENTATIONS (26 International in Bold)

1. "Concussion: More than a Bonk on the Head" lecture on effects of developmental traumatic brain injury for UCLA Pediatric Grand Rounds. Los Angeles, CA, January 14, 2000.
2. "Traumatic Brain Injury and Development: Reflections on Neuroplasticity" at the Inaugural University of California Neurotrauma meeting. Carmel, CA, August 2, 2000.
3. "Decreased N-Methyl D-Aspartate Receptor (NMDAR) Activity after Developmental Fluid Percussion Injury (FPI) Demonstrated by Changes in Subunit Composition" at the **5th International Neurotrauma Symposium. Garmisch-Partenkirchen, Germany**, October 2, 2000.
4. "Increased N-Methyl D-Aspartate Receptor NR2A:NR2B Subunit Ratio Induced by Rearing in an Enriched Environment" at the Society for Neuroscience Meeting. New Orleans, LA, November 8, 2000.
5. "Effects of Pediatric Concussion: Gone Today, Here Tomorrow?" at Children's Hospital of Los Angeles, CA, May 22, 2001, and University of Texas Southwestern Children's Hospital, Dallas, TX, May 23, 2001, and UCLA Mattel Children's Hospital, Los Angeles, CA, September 20, 2001; pediatric neurology departmental lectures.
6. "Mechanisms of Altered Neuroplasticity Following Developmental Concussion" at the 2nd Annual University of California Neurotrauma meeting. Ojai, CA, August 8th, 2001.
7. "Traumatic Brain Injury: A Disease of Youth" at UCLA-Olive View Medical Center Pediatric Grand Rounds. Sylmar, CA. May 15, 2002.
8. "Mechanism of Injury and the Neurometabolic Cascade of Concussion" Keynote address for National Athletic Trainers Association annual meeting. Dallas, TX. June 16, 2002.
9. "Concussion in Athletes: Contributions from Basic Science Research" at the New Developments in Sport-related Concussion conference. University of Pittsburgh Medical Center, Pittsburgh, PA. July 21, 2002.
10. "Molecular Response of the Immature Brain to Traumatic Injury" at the 3rd Annual University of California Neurotrauma meeting. Napa, CA. August 8th, 2002.
11. "Injury-induced Changes in NMDA Receptor Subunit Composition Contribute to Prolonged Calcium-45 Accumulation in Intact Cortex" at the National and International Neurotrauma Symposium, Saddlebrook, FL, October 31st, 2002.
12. "Scientific Progress Goes Boink....or Bonk" at University of Pittsburgh Medical Center Children's Hospital, Pittsburgh, PA, November 22nd, 2002; Pediatric Center for Neuroscience lecture.
13. "Cerebral Palsy: Etiology and Early Diagnosis" at the 5th Annual Margaret Jones Conference on Cerebral Palsy, UCLA/Orthopedic Hospital, Los Angeles, CA, May 17th, 2003.
14. "Physiological Impact of Sports Concussion" at the Division of Sports Medicine noon conference, 200 Medical Plaza, UCLA, Los Angeles, CA, May 21st, 2003.
15. "Update on the UCLA Developmental TBI Program" at the 4th Annual University of California Neurotrauma meeting. La Jolla, CA. August 21, 2003.
16. "Modeling Sports Concussions" at the 21st annual National Neurotrauma Society Symposium, Biloxi, MS, November 6th, 2003.
17. "I need that like I need a hole in my head... A Clinician's Guide to Traumatic Brain Injury Pathophysiology" at the Association of California Neurologists / California Association of Neurological Surgeons annual meeting, Newport Beach, CA, January 17th, 2004.
18. "Because It Is There....Head and Spine Trauma in Rockclimbing and Mountaineering" at the Division of Sports Medicine noon conference, 200 Medical Plaza, UCLA, Los Angeles, CA, January 21st, 2004.
19. "Dysfunction without Death: Developmental Brain Injury, Vulnerability and Plasticity" at the UCLA Brain Injury Research Center meeting, UCLA, Los Angeles, CA, March 3rd, 2004.
20. "Sports Concussion Pathophysiology" at the New Developments in Sport-related Concussion conference. University of Pittsburgh Medical Center, Pittsburgh, PA, July 17, 2004.
21. "A Clinician's Guide to the Basic Science of Traumatic Brain Injury" at the Pediatric Critical Care Research Conference, Mattel Children's Hospital at UCLA, Los Angeles, CA, August 25, 2004.
22. "When Does a Head Injury Become a Brain Injury?" at the Pediatric Neurosurgery Symposium: Bridging the Gap Between Clinicians and Surgeons, Los Angeles, CA, September 18, 2004.
23. "Timing of Environmental Enrichment is Critical for Recovery after Traumatic Brain Injury in the Developing Rat" at the **33rd Annual Meeting of the Child Neurology Society, Ottawa, Ontario, Canada**, October 15, 2004.
24. "Dysfunction without Death: Traumatic Brain Injury, Development, Experience and Plasticity" at the Neural Repair Group meeting, Gonda Neuroscience Building, UCLA, Los Angeles, CA, November 19, 2004.

25. "Gone Today, Here Tomorrow: Lasting Effects of Pediatric Traumatic Brain Injury" at Neuroscience Grand Rounds, David Geffen School of Medicine at UCLA, Los Angeles, CA. April 6, 2005.
26. "Because It Is There: Head Injury in the Outdoors" lecture covering basic physiology, prehospital and acute management of TBI, and climbing TBI database project, for the Yosemite Search and Rescue (YOSAR) team and the Yosemite medical clinic, Yosemite National Park, CA. June 27th, 2005.
27. "I need that like I need a hole in my head... A Clinician's Guide to Traumatic Brain Injury Pathophysiology", P. S. Ramani Oration, **14th Annual Meeting of the Indian Neurotrauma Society, Kolkata (Calcutta), India**. August 19th, 2005.
28. "Better Never Than Late: Lasting Effects of Pediatric Traumatic Brain Injury" guest lecture at the **14th Annual Meeting of the Indian Neurotrauma Society, Kolkata (Calcutta), India**. August 20th, 2005.
29. "Is Being Plastic Fantastic? Impaired Activation and Neuroplasticity Following Developmental Traumatic Brain Injury" at Neuroscience/Neurology Grand Rounds, University of Kentucky Medical School, Lexington, KY. October 20, 2005.
30. "Are the Lights on but Nobody Home? Impaired Brain Activation and the Timing of Intervention following Pediatric TBI" at the 3rd Annual Pediatric Brain Injury Conference, University of Miami, Miami Beach, FL. November 4th, 2005.
31. "Is Being Younger Better? Glutamatergic Responses to Pediatric Traumatic Brain Injury" at the Basic Science Lecture, Harbor-UCLA Medical Center, Torrance, CA. January 24, 2006.
32. "Pediatric Traumatic Brain Injury: A Silent Epidemic" at Pediatric Grand Rounds, Olive View-UCLA Medical Center, Sylmar, CA. February 8, 2006.
33. "Pediatric Traumatic Brain Injury: The Most Complex Injury to the Most Complex Organ" at Neurology Grand Rounds, Cedars-Sinai Medical Center, Los Angeles, CA. March 22, 2006.
34. "Sports Concussion: The Impact of Neural Dysfunction" Plenary Lecture at the **International Neurotrauma Symposium, Rotterdam, The Netherlands**. May 22, 2006.
35. "Fluid percussion injury and post-injury environment affect NMDA receptor subunit composition in the immature rat" platform presentation at the **International Neurotrauma Symposium, Rotterdam, The Netherlands**. May 22, 2006.
36. "Pediatric Traumatic Brain Injury Clinic: Caring for Forgotten Children" at the 7th annual University of California Neurotrauma meeting, Carmel, CA. August 4th, 2006.
37. "Glutamate: A Two-Edged Sword for Pediatric Traumatic Brain Injury" at the UCLA Brain Injury Research Center meeting, UCLA, Los Angeles, CA, October 11, 2006.
38. "Glutamate as Janus: The Two Faces of Neural Activation after Pediatric Traumatic Brain Injury" at Neurosurgery/Neuroscience Grand Rounds, UCD, Davis, CA, January 9, 2007.
39. "Understanding the Clinical Implications of Traumatic Brain Injury Pathophysiology" at Neuroscience Grand Rounds, Barrow Neurological Institute, Phoenix, AZ. February 2, 2007.
40. "Is Younger Better? Basic Mechanisms of Recovery After Pediatric Traumatic Brain Injury" at Pediatric Neurology Grand Rounds, Barrow Neurological Institute, Phoenix, AZ. February 5, 2007.
41. "Pediatric Traumatic Brain Injury: A Silent Epidemic" at **Pediatric Neurology Conference, Chulalongkorn University Hospital, Bangkok, Thailand**. April 3, 2007.
42. "Clinical Management of Traumatic Brain Injury: From Herniation to Concussion" at the **International Update in Clinical Neurosciences, Vivekananda Institute of Medical Sciences (VIMS), Kolkata, India**. April 5, 2007.
43. "Evaluation and Treatment of Pediatric Seizures" at the **International Update in Clinical Neurosciences, Vivekananda Institute of Medical Sciences (VIMS), Kolkata, India**. April 7, 2007.
44. "A Systematic Approach to Developmental Delay in Childhood" at the **International Update in Clinical Neurosciences, Vivekananda Institute of Medical Sciences (VIMS), Kolkata, India**. April 7, 2007.
45. "The Pathobiology of Concussion" at the National Concussion Summit, Sports Concussion Institute, Marina del Rey, CA. April 20, 2007.
46. "The Translational Science of Concussion" at the **World Boxing Council 2nd Medical Congress, Cancun, Mexico**. April 25, 2007.
47. "Not Enough of a Good Thing: Impaired Neural Activation after Pediatric Traumatic Brain Injury", as Visiting Professor, Pepperdine University, Malibu, CA. June 15, 2007.
48. "Pathophysiology of Concussion: On Solid Ground or Hanging by a Thread", at the National Athletic Trainer's Association Annual Meeting, Anaheim, CA. June 29, 2007.
49. "Glutamate: A Two-Edged Sword for Pediatric Traumatic Brain Injury" at Neurosurgery Grand Rounds, Dartmouth Hitchcock Medical Center, Hanover, NH, October 10th, 2007.

50. "Not Lost in Translation: Impaired Neural Activation and Recovery of Function after Pediatric Brain Injury" at the Pediatric Translational Research Group lecture, UCLA, Los Angeles, CA, October 15th, 2007.
51. "Clinical Trials in Pediatric TBI" – Discussant at the New Frontiers in Pediatric TBI meeting, San Diego, CA. November 9th, 2007.
52. "Pathobiology of Concussion: Are the Lights On But No One Home?" at the Interdisciplinary Symposium on Cervical Spine Trauma, Southern California University of Health Sciences, Whittier, CA. February 23, 2008.
53. "Because It Is There: Head Trauma in Rockclimbing and Mountaineering" at the **4th International Meeting on Mild Traumatic Brain Injury in Sports. San Moritz, Switzerland**. March 11, 2008.
54. "Found In Translation: Impaired Neural Activation and Recovery from Pediatric Brain Injury" at the **4th International Meeting on Mild Traumatic Brain Injury in Sports. San Moritz, Switzerland**. March 14, 2008.
55. "Pathobiology of Concussion: The Impact of Neural Dysfunction" at the Rendezvous II meeting; 17th Annual Meeting of the American Medical Society for Sports Medicine. Las Vegas, NV. March 25, 2008.
56. "Management of Pediatric Sports Concussions: Head bumps, Dings and Hard Knocks", at Kaiser Permanente Pediatric Morning Conference. Panorama City, CA. May 6, 2008.
57. "Heads Up! Assessment and Management of Concussions in Pediatrics" at the Clinical Issues in Pediatrics Symposium. San Francisco, CA. October 30, 2008.
58. "A Pediatrician's Primer on Seizures and Epilepsy" at the Clinical Issues in Pediatrics Symposium. San Francisco, CA. October 31, 2008.
59. "It's Not a Tumor: Headaches in Children and Adolescents" at the Clinical Issues in Pediatrics Symposium. San Francisco, CA. October 31, 2008; also given at the PRIMED Pediatrics Symposium, Anaheim, CA. May 7, 2009.
60. "Are the Lights On But Nobody Home? Impaired Neural Activation During Recovery from Pediatric TBI" at the Child Neurology Society 37th Annual Meeting. Santa Clara, CA. November 8, 2008.
61. "TBI: From Concussion to Coma" at the Association of California Neurologists Annual Meeting. San Francisco, CA. February 12, 2009. Providence Holy Cross Medical Center, Sylmar CA. October 25, 2013.
62. "Pediatric Traumatic Brain Injury: Not Just Little Adults," Paul R. Dyken Scholarship Lecturer at the Southern Pediatric Neurology Society 34th Annual Meeting. New Orleans, LA. March 21, 2009.
63. "Lost (and Found) in Translation: Imaging Impaired Neural Activation and Recovery from Pediatric Brain Injury" at the UCLA Brain Injury Research Center meeting, UCLA, Los Angeles, CA. April 22, 2009.
64. "Traumatic Brain Injury: Kids, Athletes, Soldiers – Why is it STILL the Silent Epidemic?" at the Science, Society and You lecture series, Occidental College, Los Angeles, CA. April 22, 2009.
65. "Experience-Dependent Plasticity Following Developmental TBI" at the 2nd Joint Symposium of the International and National Neurotrauma Societies, Santa Barbara, CA. September 11, 2009.
66. "Pediatric Traumatic Brain Injury: Little Brains, Big Problems" at Pediatric Grand Rounds, Mattel Children's Hospital – UCLA, Los Angeles, CA. September 18, 2009.
67. "It's Not All Fun and Games: Neural Activation and Plasticity after Pediatric Concussive TBI" at Children's National Medical Center, Eunice Shriver Intellectual and Developmental Disorders Research Center (IDDRC), Washington DC. September 24, 2009.
68. "Kids with TBI: Don't treat them just like little adults" at Neurology Grand Rounds, Cedars-Sinai Medical Center, Los Angeles, CA. January 22, 2010.
69. "Turn It On: Glutamate Agonist Therapy after Pediatric Traumatic Brain Injury" at Neuroscience/Neurology Grand Rounds, David Geffen School of Medicine at UCLA, Los Angeles, CA. February 24, 2010.
70. "Early Monitoring for Seizures and Long-term Global Outcomes Following Moderate to Severe Brain Injury in Children" at the inaugural Pediatric Neurocritical Care Research Group meeting, Snowbird, UT. March 9, 2010.
71. "You are Your Environment: Experience-Dependent Plasticity" at the Department of Laboratory and Animal Medicine monthly meeting, David Geffen School of Medicine at UCLA, Los Angeles, CA. April 28, 2010.
72. "Turn It On: Activating the Injured Pediatric Brain" at the Today's and Tomorrow's Children Fund Faculty Presentation, Department of Pediatrics, Mattel Children's Hospital – UCLA, Los Angeles, CA. May 7, 2010.
73. "Heads Up! Assessment and Management of Concussions in Pediatrics" at the PRIMED Pediatrics Symposium, Anaheim, CA. May 7, 2010.
74. "Hitting a Moving Target: Challenges and Opportunities in Recovery from Developmental Brain Injury" at the **Bo Ericsson Pediatric Neurorehabilitation Symposium, Karolinska Institute, Stockholm, Sweden**. June 12, 2010.
75. "Neurotrauma basic research and neurorehabilitation: Results from the Neurotrauma 2009 interactive survey" at the National Neurotrauma Society annual meeting, Las Vegas, NV. June 17, 2010.
76. "Hard Knocks for Jocks: Evaluation and Management of Sports Concussions" at the Texas Neurological Society Annual Summer meeting, San Antonio, TX. July 24, 2010.

77. "Found in Translation: Navigating Between Animal and Clinical Intervention Trials" at the 11th annual University of California Neurotrauma meeting, Los Gatos, CA, August 23, 2010.
78. "Not Just Little Adults: Translational Investigations of Traumatic Brain Injury in Children and Adolescents" at the University of Colorado, The Children's Hospital, Denver, CO. September 27, 2010.
79. "Plug It In and Turn It On: Connectivity and Activation in the Traumatically Injured Brain" at the Physical Medicine and Rehabilitation Grand Rounds, University of Alabama, Birmingham, AL. October 1, 2010.
80. "You are What You Experience: Effects of Environment on Neuroplasticity and Recovery from Brain Injury" at the 8th International Snoezelen Symposium, Birmingham, AL. October 2, 2010.
81. "Found in Translation: A Clinician's Guide to the Pathophysiology of Pediatric Sports Concussions" at the 39th Annual Child Neurology Society meeting, Providence, RI. October 16, 2010.
82. "Is Younger Better? Lessons in Pathophysiology for Pediatric and Adolescent Sports Concussions" at the 71st Annual Assembly of the American Academy of Physical Medicine and Rehabilitation, Seattle, WA. November 7, 2010.
83. "It Not Just All in Your Head: Understanding the Biological Basis of Concussion and mild TBI" at the 8th Annual Pediatric Brain and Spinal Cord Injury Conference at the University of Miami, Miami Beach, FL. November 9, 2010.
84. "Pathophysiology of Concussions: Hard Knocks for Jocks" at the 2011 Big Sky Athletic Training Sports Medicine Conference at Big Sky, MT. January 31, 2011.
85. "Management of Pediatric Sports Concussions: Head Bumps, Dings and Hard Knocks" at Kaiser Permanente Pediatric Morning Conference. Woodland Hills, CA. February 11, 2011.
86. "Saving the Brain After Severe Pediatric TBI: Neuroimaging, EEG and Clinical Care at the **Pediatric Neurology Neurotrauma Symposium, Alberta Children's Hospital, Calgary, AB**" February 24, 2011.
87. "What's So Mild About Mild Traumatic Brain Injury? Sports Concussions and Blast Injuries" at the **Pediatric Neurology Neurotrauma Symposium, Alberta Children's Hospital, Calgary, AB**. February 24, 2011.
88. "Plug It In and Turn It On: Imaging Brain Function, Connectivity and Restoring Plasticity After Pediatric TBI" at the **Alberta Children's Hospital Research Institute (ACHRI), Calgary, AB**. February 25, 2011.
89. "Food for Thought: Metabolism and the Concussed Brain" at the 27th Annual Sports Cardiovascular And wellness Nutrition (SCAN) Symposium, Chicago, IL. March 11, 2011.
90. "Hard Knocks for Jocks: Head Trauma in the Athlete" at the Northridge Hospital CME Noon Conference. Northridge, CA. March 15, 2011.
91. "When Does a Head Bump Become a Brain Injury: Ups and Downs of Sports Concussions in Kids" at Pediatric Grand Rounds, Olive View-UCLA Medical Center, Sylmar CA. March 23, 2011.
92. "Update on Military Mild TBI/Blast Injury: Lessons from Civilian and Military Concussions" at the American Academy of Neurology Brain Health Fair, Honolulu, HI. April 9, 2011.
93. "Neurometabolic Cascade of Concussion: Implications for Managing Youth Athletes" at the Concussion Summit, Inglewood, CA. May 6, 2011.
94. "More than just a bump on the head: From concussion to severe TBI in children and adolescents" at the Spring Symposium of the Los Angeles Council of School Nurses, Burbank, CA. May 7, 2011.
95. "Injury-Schminjury: Taking pediatric TBI seriously" at the Miller Children's Hospital Pediatric Grand Rounds, Long Beach, CA. May 13, 2011.
96. "Blast from the Future: A Civilian Look at the New Military Approach to Mild TBI in Afghanistan" at the UCLA Brain Injury Research Center meeting, Los Angeles, CA. May 25, 2011.
97. "Plug It In and Turn It On: Activating the Young Brain after Traumatic Injury" at the University of Utah J. Richard Baringer Graduation Symposium, Salt Lake City, UT. June 8, 2011.
98. "Is it Just a Bump on the Head? The latest and greatest in management of youth sports concussions" at the Kaiser Permanente Pediatric Conference. Panorama City, CA. June 21, 2011.
99. "Found in Translation: Mechanisms of Recovery following Pediatric Traumatic Brain Injury" at the **Holland-Bloorview Kids Rehabilitation Hospital Grand Rounds, Toronto, ON, Canada**. August 17, 2011.
100. "The Quest for Mechanism-Based Traumatic Brain Injury Therapies" at the inaugural **Developmental Neuroscience Grand Rounds at Alberta Children's Hospital. Calgary, AB, Canada**. Sept. 12, 2011.
101. "Gray Team III: Mild TBI in Afghanistan – A Civilian's Perspective" at the 12th annual University of California Neurotrauma meeting, Santa Barbara, CA. September 26, 2011.
102. "The Ends Justifies the Means: Outcomes and Chronic Management after Pediatric Traumatic Brain Injury / Acquired Brain Injury" at the 40th annual Child Neurology Society meeting, Savannah, GA. October 27, 2011.
103. "Show Me the Evidence: Fact and Fiction and Youth Concussions" at Pediatric Grand Rounds, Mattel Children's Hospital – UCLA, Los Angeles, CA. November 4, 2011.

104. "Head Bump or Brain Injury? Update on Youth Concussion Guidelines" at 53rd Annual Kaiser Permanente Pediatric Symposium, Long Beach, CA. November 18, 2011.

105. "Show Me the Evidence: Guidelines for the Management of Youth Concussions" at the Miller Children's Hospital Pediatric Grand Rounds, Long Beach, CA. January 27, 2011. "Show Me the Evidence: Preview of Updated Sports Concussion Management Guidelines" at the 2012 Big Sky Athletic Training Sports Medicine Conference at Big Sky, MT. January 29, 2012. "Show Me The Evidence: A Critical Approach to Sports Concussions and mild TBI" at the Pri-MED Primary Care Medicine Symposium, Anaheim, CA. April 13, 2012. "Show Me the Evidence: Clinical Approach to Concussion and Mild TBI" at the Traumatic Brain Injury Course, American Academy of Neurology Annual Meeting, New Orleans, LA. April 27, 2012. "Show Me the Evidence: Fact and Fiction and Youth Concussions" at the 5th Annual Current Trends in Pediatric and Adolescent Medicine Symposium, St. Clare's Child Neurology, Whippany, NJ. April 28, 2012.

106. "From Concussion to Coma in Pediatrics: Not Just 'Kid'-ding Around" at the Texas Neurological Society Winter meeting, Austin, TX. February 3, 2012. Also at the Providence St. Joseph Medical Center noon CME conference, Burbank, CA. May 1, 2012.

107. "Sports Related Concussions: Fact and Fiction" at the Providence Holy Cross Hospital Clinical Conference, Mission Hills, CA. February 10, 2012.

108. "Metabolism, Neural Activation and Plasticity after TBI: A Developmental Perspective" at the Keystone Symposium Clinical and Molecular Biology of the Acute and Chronic Traumatic Encephalopathies, Keystone, CO. February 27, 2012.

109. "Who Gives a Rat's....Brain? Understanding Concussion Pathophysiology and Its Relationship to Clinical Care" at the 1st Annual University of Texas Arlington Concussion Summit, Arlington, TX. March 10, 2012. "Who Gives a Rat's....Brain? How Concussion Pathophysiology Fact and Fiction relates to Clinical Care" at the Sports Medicine Concussion Program Grand Rounds, University of Pittsburgh, Pittsburgh, PA. June 7, 2012.

110. "Is Being Plastic Fantastic? The Challenges of Good and Bad Plasticity After Traumatic Brain Injury" for the Distinguished Lecturer Seminar Series at Children's Memorial Research Center, Northwestern University, Chicago, IL. April 5, 2012.

111. "It's Not All Fun and Games: Understanding Concussion Pathophysiology in Children and Adolescents" at Pediatric Grand Rounds, Feinberg School of Medicine, Northwestern University, Chicago, IL. April 6, 2012.

112. "What's Hot in Febrile Seizures: Evidence-based Clinical Assessment and Update" at the Pri-MED Primary Care Medicine Symposium, Anaheim, CA. April 13, 2012 and the California Academy of Physician Assistants annual meeting, Palm Springs, CA. October 6, 2012.

113. "Concussion Physiology Fact and Fiction: Why It Matters Which is Which" at the Sports Neurology Course, American Academy of Neurology Annual Meeting, New Orleans, LA. April 22, 2012.

114. "Traumatic Brain Injury: Pathology and Neurobiology" at the Traumatic Brain Injury Course, American Academy of Neurology Annual Meeting, New Orleans, LA. April 27, 2012.

115. "Is Being Plastic Fantastic? Traumatic Brain Injury, Environment and Development" at the **2012 International Neuropsychological Society Mid-Year meeting/11th Nordic Meeting in Neuropsychology, Oslo, Norway**. June 29, 2012.

116. "Plug It In and Turn It On: Connectivity and Activation after Pediatric TBI" at the **2012 International Neuropsychological Society Mid-Year meeting/11th Nordic Meeting in Neuropsychology, Oslo, Norway**. June 29, 2012. "Plug It In and Turn It On: Plasticity and Recovery after TBI" at Loma Linda University Medical School Neuroscience Grand Rounds, Loma Linda, CA. October 10, 2012.

117. "Neurologic Disorders" at the American Physician Institute Pediatric Board Review course, Oak Creek, IL August 6, 2012. Rosemont, IL August 26, 2013.

118. "What's Inside the Black Box of Neurology? Headaches, Seizures and Coma/Trauma" at the UCLA Pediatric Board Review Course, Santa Monica, CA. Sept. 6, 2012. Marina del Rey, CA September 7th, 2013.

119. "It's Not Just Kids' Play: Evidence-Based Concussion Management" at the North American Brain Injury Society annual meeting, Miami, FL. Sept. 12, 2012; UCLA Santa Monica Pediatric Update for the Community Practitioner, Santa Monica, CA Nov. 17, 2012. "It's Not All Fun & Games: Evidence-Based Concussion Management" at the Hawaii Neurological Society 4th Annual Scientific Conference – Trends in Neurological Medicine, Honolulu, HI. October 13, 2012.

120. "It's Not a Tumor: A Practical Approach to Headaches in Children and Young Adults" at the Providence Tarzana Medical Center Clinical Conference, Tarzana, CA. September 24, 2012. Also at the 28th annual Advances in the Practice of Pediatrics conference. San Diego, CA. Feb. 15, 2014

121. "Concussion Pathophysiology 101: Mechanisms of Neural Dysfunction and Vulnerability" at the Mayo Clinic Scottsdale Concussion Symposium, Scottsdale, AZ. September 29, 2012.

122. "Look and You Will Find: Continuous EEG monitoring after Pediatric TBI" at the **Pediatric Neurocritical Care Research Group meeting, Hospital for Sick Kids, Toronto, CA.** October 27, 2012.

123. "Pediatric TBI: Not Just Little Adults" at the Neuroscience of Brain Injury Conference – Research Informing Medical Treatment and Legal Practice, Napa, CA. November 10, 2012.

124. "Turn It On: Controlled Neural Activation after Traumatic Brain Injury" at the **2012 National Taiwan University Medical Electronics Workshop, Taipei, Taiwan.** November 30, 2012.

125. "Show Me The Evidence: Fact and Fiction and Youth Concussions" at the Arthur Ashe UCLA Student Health Center morning lecture. Los Angeles, CA. January 11, 2013.

126. "Building Pediatric TBI Networks: Challenges and Opportunities to a Statewide Approach" at the 3rd Annual California Trauma and Resuscitation conference. San Diego, CA. January 24, 2013.

127. "Food for Thought: Metabolic Therapy for Traumatic Brain Injury" at the 3rd Annual California Trauma and Resuscitation conference. San Diego, CA. January 26, 2013.

128. "Found in Translation: Clinical Implications of Concussion Pathophysiology" at the Big Sky Athletic Trainers Sports Medicine Conference. Big Sky, MT. February 4, 2013.

129. "Who Gives a Rat's...Brain? Translational Advances in Traumatic Brain Injury" at Neurosurgery Grand Rounds, University of California, Davis. Sacramento, CA. February 12, 2013.

130. "The Good, the Bad and the Ugly: Neuroplasticity after Pediatric Traumatic Brain Injury" at the **Neuroscience and Mental Health Mini-Symposium, Toronto Hospital for Sick Kids, Toronto, ONT.** March 1, 2013.

131. "Play with a Full Deck: Evidence-Based Guidelines for Sports Concussion Management" at the 2nd Matthew A. Gfeller Sport-Related Neurotrauma Symposium at University of North Carolina, Chapel Hill, NC. March 9, 2013.

132. "Sports Concussion Top 10: What do we know and what don't we know?" at the 2nd Matthew A. Gfeller Sport-Related Neurotrauma Symposium at University of North Carolina, Chapel Hill, NC. March 9, 2013 and the American Academy of Neurology 65th Annual Meeting Brain Health Fair – Update on Sports Concussions, San Diego, CA. March 16th, 2013.

133. "Injury-Schminjury: Taking Pediatric TBI and Concussion Seriously" at the American Academy of Neurology 65th Annual Meeting, San Diego, CA. March 18th, 2013.

134. "Who Gives a Rat's...Brain? Understanding the Links Between Concussion Pathophysiology and Clinical Care" at the American Academy of Neurology 65th Annual Meeting, San Diego, CA. March 22nd, 2013.

135. "It's Not Child's Play: An Evidence-Based Approach to Youth Concussions" at the American Medical Society for Sports Medicine Annual Meeting, San Diego, CA. April 18th, 2013. 14th Annual UC Neurotrauma meeting, Santa Barbara, CA. September 24th, 2013.

136. "It's Not All in Your Head: A Practical Approach to Pediatric Headaches" at the Pri-MED Primary Care Medicine Symposium, Anaheim, CA. May 3rd, 2013.

137. "Injury-Schminjury: Taking Pediatric Mild Traumatic Brain Injury Seriously" at the Pediatric Academic Societies Annual Meeting, Washington, DC. May 4th, 2013.

138. "Just the Facts: Evidence-Based Guidelines for Sports Concussion Management" at the National Summit on Sports Concussion, Atlanta, GA. May 10th, 2013. Neuroscience/Neurology Grand Rounds, David Geffen School of Medicine at UCLA, Los Angeles, CA. June 12th, 2013. Concussion Symposium of West Texas, El Paso, TX. August 2nd, 2013.

139. "What's Hot in Febrile Seizures" at the 40th Annual UCLA Family Medicine Refresher Course, Century City, CA. May 22nd, 2013.

140. "Future Therapies to Enhance TBI Recovery" at the 1st UCLA Pediatric TBI Symposium: Little Brains, Big Problems, Ronald Reagan-UCLA Medical Center, Westwood, CA. June 15th, 2013.

141. "Better Never Than Late: Long-term Outcomes Following Pediatric Head Trauma" CME Seminar, Northridge Hospital, Northridge, CA. June 28th, 2013.

142. "Pediatric Traumatic Brain Injury: The Not-so-Silent Epidemic" Special Seminar, Yale School of Medicine, New Haven, CT. July 15th, 2013.

143. "Who's Counting? Detection and Quantification of Head Trauma Exposure and Risk for Chronic Neurocognitive Impairment" at the Brain Trauma-Related Neurodegeneration Conference, National Institutes of Health, Bethesda, MD. July 22-23rd, 2013.

144. "The Science of Concussions" panel member and discussant at the 4th annual Santa Clara University Sports, Law & Ethics Symposium. Santa Clara, CA. September 12th, 2013.

145. "Ready for the Big Leagues: Concussion Pathophysiology in Kids and Adults" at the Advances in the Management of Concussions conference, Inova Rehabilitation Center. Springfield, VA. October 4th, 2013.

146. "I'm So Dizzy... Approach to the Dizzy Patient" at the California Academy of Physician Assistants annual meeting, Palm Springs, CA. October 5th, 2013.

147. "Measuring Post-Concussion Behavior in an Animal Model: What's that Rat Thinking?" at the Ice Hockey Summit II: Action on Concussion, Mayo Clinic, Rochester, MN. October 8th, 2013.

148. "Bench to Bedside: Neuroplasticity and Recovery after Pediatric TBI." at the **72nd Annual Japan Neurosurgical Society, Yokohama, Japan**. October 17, 2013.

149. "Fact and Fiction and Sports Concussions" at the **72nd Annual Japan Neurosurgical Society, Yokohama, Japan**. October 18, 2013.

150. "Who Gives a Rat's...Brain? Clinical Implications of Traumatic Brain Injury Pathophysiology" at the 42nd Annual meeting of the Child Neurology Society, Austin, TX. October 31st, 2013.

151. "Youth Sports Concussion Top 10: What do we know and what don't we know?" at the Safe Sports Think Tank: Exploring the relationship between childhood sports-related concussions and long-term cognitive outcomes, Washington, DC. November 25, 2013.

152. "Monitoring the Injured Brain: From Coma to Sports Concussions" at the **Symposium on Engineering, Medicine and Biology (SEMBA), Taipei, Taiwan**. January 19th, 2014.

153. Chair and Discussant, Panel Discussion – "Sense and Sensibility: Now, Then and the Future of Brain Science and Engineering" at the **Symposium on Engineering, Medicine and Biology (SEMBA), Taipei, Taiwan**. January 19th, 2014.

154. "Rat's...I've Been Concussed" at the Big Sky Athletic Trainers Sports Medicine Conference. Big Sky, MT. February 4, 2014.

155. "Pediatric Concussions: A Primary Care Approach" at the 28th annual Advances in the Practice of Pediatrics conference. San Diego, CA. February 14, 2014.

156. "Save the Brain: Pediatric Neurological Emergencies" at the 28th annual Advances in the Practice of Pediatrics conference. San Diego, CA. February 14, 2014.

157. "Pediatric Traumatic Brain Injury: Clinical Pearls from Coma to Clinic" at the 28th annual Advances in the Practice of Pediatrics conference. San Diego, CA. February 16, 2014.

158. "Basic Science Breakthroughs from Sports Concussion Research" at the 10th World Congress on Brain Injury. San Francisco, CA. March 19, 2014.

159. "Enhancing Recovery after Pediatric TBI: Translating Basic Neurobiology to Clinical Intervention" at the 3rd annual Current Topics in Sports Medicine Symposium – Concussion 2014: The Essentials. Scottsdale, AZ. March 22, 2014.

160. "Sports Brain Injuries: An Evidence Based Approach to Concussion" at the 63rd annual Yosemite Postgraduate Institute, Fresno-Madera Medical Society meeting. Yosemite, CA. March 29, 2014.

161. "Concussion Workshop: Mild TBI/Concussion Cases" at the 63rd annual Yosemite Postgraduate Institute, Fresno-Madera Medical Society meeting. Yosemite, CA. March 29, 2014.

162. "Just the Facts: An Evidence Based Approach to the Youth Concussion Crisis" as the Matson Memorial Lecture at the 82nd American Association of Neurological Surgeons Annual Scientific meeting. San Francisco, CA. April 9, 2014.

163. "Use Your Head: What you need to know about youth concussions from basic pathophysiology to clinical management" lecture and workshop at the California Psychological Association annual convention. With Dr. Talin Babikian. Monterey, CA. April 10, 2014.

164. "Pediatric Sports Concussion Management: Practice and Research Perspectives" at the 2nd annual Sports Neuropsychology Society Concussion Symposium. Dallas, TX. April 26, 2014.

165. "Who Gives a Rat's...Brain? Why Should You Care About Concussion Pathophysiology" at the American Academy of Neurology 66th Annual Meeting, Philadelphia, PA. April 30th, 2014.

166. "Cutting Edge Concepts in Traumatic Brain Injury" at the 2nd annual Central California Trauma Symposium, Fresno, CA. May 7th, 2014.

167. "Even Obama Cares: Identification and Management of Youth Concussions" at the Pediatric Neurology Clinical Neuroscience Conference, University of Pennsylvania and Children's Hospital of Philadelphia, Philadelphia, PA. June 19th, 2014.

168. "Found in Translation: Developmental Plasticity as a Therapeutic Target after Pediatric TBI" at the National Neurotrauma Society 32nd Annual Symposium, San Francisco, CA. June 30, 2014.

169. "Concussion Pathophysiology 101 at the 1st American Academy of Neurology Sports Concussion Conference, Chicago, IL. July 11-13, 2014.

PUBLICATION BIBLIOGRAPHY

RESEARCH PAPERS

RESEARCH PAPERS (PEER-REVIEWED)

1. Liu X, **Giza** CC, Triezenburg SJ, and Vrana KE. High efficiency transient expression of eukaryotic genes: novel use of an HSV-1 immediately early promoter (ICP4). *Biotech.* 1990; 9(2): 168-173.
2. Mathern, GW; **Giza**, CC; Yudovin, S; Vinters, HV; Peacock, WJ; Shewmon, DA; Shields, WD. Postoperative seizure control and antiepileptic drug use in pediatric epilepsy surgery patients: the UCLA experience, 1986-1997. *Epilepsia* 1999; 40(12):1740-9.
3. Fineman I, **Giza** CC, Nahed B, Lee SM and Hovda DA. Inhibition of neocortical plasticity during development by moderate concussive brain injury. *J. Neurotrauma* 2000; 17(9): 739-49.
4. Rabizadeh S, Ye X, Wang JJL, Sperandio S, Wang, JJL, Ellerby HM, Ellerby LM, **Giza** CC, Andrusiak RL, Frankowski H, Yaron Y, Moayeri NN, Rovelli G, Evans CJ, Butcher LL, Nolan GP, Assa-Munt N, and Bredesen DE. Neurotrophin dependence domain: A domain required for the mediation of apoptosis by the p75 neurotrophin receptor. *J. Molec. Neurosci.* 2000; 15: 215-229.
5. **Giza** CC, Prins ML, Hovda DA, Herschman HR and Feldman JD. Genes preferentially induced by depolarization after concussive brain injury: Effects of age and injury severity. *J Neurotrauma* 2002 Apr;19(4):387-402.
6. Ip EY, **Giza** CC, Griesbach G and Hovda DA. Effects of enriched environment and fluid percussion injury on dendritic arborization within the cerebral cortex of the developing rat. *J. Neurotrauma* 2002 May;19(5):573-85.
7. Zanier ER, Lee SM, Vespa P, **Giza** CC and Hovda DA. Increased hippocampal CA3 vulnerability to low level glutamate analogue following lateral fluid percussion injury. *J. Neurotrauma* 2003 May; 20(5):409-420.
8. Osteen CL, **Giza** CC and Hovda DA. Injury-induced alterations in NMDA receptor subunit composition contribute to prolonged ⁴⁵calcium accumulation following lateral fluid percussion. *Neuroscience* 2004 128(2):305-322.
9. **Giza** CC, Griesbach GS and Hovda DA. Experience-Dependent Behavioral Plasticity is Disturbed Following Traumatic Injury to the Immature Brain. *Behavioral Brain Res*, 2005; 157(1):11-22.
10. Gurkoff GG, **Giza** CC and Hovda DA. Lateral fluid percussion injury in the developing rat causes an acute, mild behavioral dysfunction in the absence of significant cell death. *Brain Res*, 2006 Mar 10; 1077(1):24-36.
11. **Giza** CC, Santa Maria NS, and Hovda DA. N-methyl-D-aspartate receptor subunit changes following traumatic injury to the developing brain. *J. Neurotrauma*, Jun, 2006; 23(6):950-61.
12. Prins ML and **Giza** CC. Induction of monocarboxylate transporter-2 expression and ketone transport following traumatic brain injury in juvenile and adult rats. *Dev Neurosci*, 2006; 28(4-5):447-56.
13. **Giza** CC and Prins ML. Is being plastic fantastic? Mechanisms of impaired plasticity following developmental traumatic brain injury. *Dev Neurosci*, 2006; 28(4-5):364-79.
14. Reger ML, Hovda DA and **Giza** CC. Ontogeny of working memory as measured by the novel object recognition task. *Devel Psychobiol*, 2009; 51(8):672-8.
15. Gurkoff GG, **Giza** CC, Shin D, Auvin S, Sankar R and Hovda DA. Acute neuroprotection to pilocarpine-induced seizures is not sustained after traumatic brain injury in the developing rat. *Neuroscience*, 2009; 164(2):862-76.
16. Babikian T, Marion SD, Copeland S, Alger JR, O'Neill J, Cazalis F, Mink R, **Giza** CC, Vu JA, Hilleary SM, Kernan CL, Newman N, Asarnow RF. Metabolic levels in corpus callosum and their structural and behavioral correlates following moderate to severe pediatric TBI. *J. Neurotrauma*, 2010; 27:473-481.
17. Schober ME, Block B, Beachy JC, Statler KD, **Giza** CC and Lane RH. Early and sustained increase in the expression of hippocampal IGF-1, but not EPO, in a developmental rodent model of traumatic brain injury. *J. Neurotrauma*, 2010 Nov; 27(11):2011-2020.

18. Prins ML, Hales A, Reger ML, **Giza** CC, Hovda DA. Repeat traumatic brain injury in the juvenile rat is associated with increased axonal injury and cognitive impairments. *Dev Neurosci*, 2010; 32(5-6):510-8.
19. Babikian T, Prins ML, Barkhoudarian G, Hartonian I, Cai Y, Hovda DA and **Giza** CC. Molecular and Physiological Responses to Juvenile TBI: Focus on Metabolism and Growth. *Dev Neurosci*, 2010; 32(5-6):431-41.
20. Cazalis F, Babikian T, **Giza** C, Copeland S, Hovda DA and Asarnow RF. Pivotal role of the anterior cingulate cortex in working memory after traumatic brain injury in youth. *Front Neurol*, 2011 Jan 21; 1:158.
21. Hutson CB, Lazo CR, Mortazavi F, **Giza** CC, Hovda DA and Chesselet MF. Traumatic brain injury induces acute cellular vulnerability to enhanced dopaminergic cell loss via exposure to the pesticide paraquat. *J Neurotrauma*. 2011 Sep; 28(9):1783-801.
22. Reger ML, Poulos AM, **Giza** CC, Hovda DA, Fanselow MS. Concussive brain injury enhances fear learning and excitatory processes in the amygdala. *Biol Psychiatry*, 2012 Feb 15; 71(4): 335-43.
23. Adelson D, Pineda J, Bell MJ, Abend N, Berger R, **Giza** CC, Hotz G, Wainwright MS. Common data elements for Pediatric Traumatic Brain Injury: Recommendations from the working group on demographics and clinical assessment. *J Neurotrauma*, 2012 Mar 1; 29(4): 639-53.
24. Prins ML, Alexander D, **Giza** CC, Hovda DA. Repeat traumatic brain injury: The mechanism of cerebral vulnerability. *J Neurotrauma* 2013 Jan 1; 30(1): 30-38.
25. DiPietro V, Amorini AM, Tavazzi B, Hovda DA, Signoretti S, **Giza** CC, Vagozzi R, Lazzarino G and Belli A. Potentially neuroprotective gene modulation in an in vitro model of mild traumatic brain injury. *Molec Cell Biochem*, 2013 Mar; 375(1-2):185-98.
26. Matsumoto JH, Caplan R, McArthur DL, Forgey MJ, Yudovin S and **Giza** CC. Prevalence of epileptic and nonepileptic events after pediatric traumatic brain injury. *Epilepsy Behav* 2013 Apr; 27(1):233-7.
27. Sanchez SM, Carpenter J, Chapman KE, Dlugos DJ, Gallentine W, **Giza** CC, Goldstein J, Hahn CD, Kessler SK, Laddenkemper T, Riviello JJ and Abend NS on behalf of the Pediatric Critical Care EEG Group. Pediatric ICU EEG monitoring: Current resources and practice in the United States and Canada. *J Clin Neurophysiol* 2013 Apr, 30(2):156-160.
28. **Giza** CC*, Kutcher JS*, Ashwal S, Barth J, Getchius T, Gioia G, Gronseth G, Guskiewicz K, Mandel S, Manley G, McKeag D, Thurman D, Zafonte R. Summary of evidence-based guideline update: Evaluation and management of concussion in sports, Report of the Guideline Development Subcommittee of the American Academy of Neurology. *Neurology* 2013 Jun 11; 80(24):2250-2257.
29. Kernic MA, Rivara FP, Zatzick DF, Bell MJ, Wainwright MS, Groner JI, **Giza** CC, Mink RB, Ellenbogen RG, Boyle L, Mitchell PH, Kannan N, Vavilala MS, for the PEGASUS (Pediatric Guideline Adherence and Outcomes) Project. Triage of children with moderate and severe traumatic brain injury to trauma centers. *J Neurotrauma* 2013 Jul 1; 30(13):1129-36.
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59. Poulos AM, Reger ML, Livingston B, Giza CC, Hovda DA and Fanselow MS. A single stressful event prior to weaning enhances fear learning in adult rats. *Society for Neuroscience*, 2008, 477.19, QQ18.
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61. Prins ML, Giza CC, Deng-Bryant Y, Appelberg SA. Juvenile model of closed head mild repeat TBI. *J Neurotrauma*, 2009; 26(8):A84, P328.
62. Giza CC, Santa Maria NS, Griesbach GS, Cai Y and Hovda DA. Fluid percussion injury in the immature rat causes a sustained reduction of hippocampal BDNF independent of environmental housing conditions. *J Neurotrauma*, 2009; 26(8):A7, P23.
63. Garfinkel D, Griesbach GS, Cai Y, Giza CC, Hovda DA. Differences in responsiveness to exercise after TBI in immature and adult rats. *J Neurotrauma*, 2009; 26(8):A97, P378.
64. Lerner JT, van Hirtum-Das M, Madikians A, McArthur DL, Yudovin S, Valino H, Szeliga C, Duran A, Giza CC. Post-traumatic seizures in a pediatric TBI population, a retrospective look with prospective goals. *J Neurotrauma*, 2009; 26(8):A42, P161.
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66. Babikian T, DeBoard Marion S, Copeland S, Alger JR, O'Neill J, Cazalis F, Mink R, Giza CC, Vu J, Hilleary S, Kernan C, Newman N, Asarnow RF. Metabolite levels in the corpus callosum and their structural and neurobehavioral correlates following moderate to severe pediatric TBI. *J Neurotrauma*, 2009; 26(8):A87, P338.
67. Reger ML, Poulos AM, Santa Maria NS, Hovda DA, Fanselow MS, Giza CC. Increased NR2A subunit expression within amygdalar NMDA receptors in rats exhibiting enhanced fear conditioning following diffuse brain injury. *J Neurotrauma*, 2009; 26(8):A42, P159.
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72. Giza CC. You Are What You Experience - Effects of Environment on Neuroplasticity and Recovery from Brain Injury. 8th Meeting of the International Snoezelen Association, 2010.
73. Buen F, Cai Y, Santa Maria NS, Hovda DA, Giza CC. Lateral fluid percussion injury in developing rats disrupts activation of CaMKII and ERK 1/2. *J Neurotrauma* 2010 26:A-76, P267.

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75. Glenn TC, **Giza** CC, Martin N, Hovda DA, McArthur DL. Acute TBI patient management: Results from the 2009 International Neurotrauma Society meeting survey. *J Neurotrauma* 2010 26:A-57, P191.

76. Sherma A, Glenn TC, **Giza** CC, Holly L, Fehlings M, Hovda, DA, McArthur DL. Acute spinal cord injury management: Results from the 2009 International Neurotrauma Survey. *J Neurotrauma* 2010 26:A-56, P190.

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80. Barkhoudarian G, Babikian T, Prins ML, Cai Y, Hartonian I, Hovda DA, **Giza** CC. Molecular and physiological responses to juvenile TBI: Focus on growth and metabolism. *J Neurotrauma* 2010 26:A-39, P124.

81. Reger ML, Buen F, Poulos AM, Hovda DA, Fanselow MS & **Giza** CC. Changes in Inhibitory and Excitatory Neurotransmission Within Fear Conditioning Circuitry Following Concussive Brain Injury: What's the relationship between TBI and PTSD? *Society for Neuroscience meeting*, 2010, 915.6, MMM50.

82. Santa Maria NS, Harris NG, Hovda DA and **Giza** CC. Mapping the window of reduced glutamatergic activation after developmental brain injury using pharmacological MRI (phMRI). *Society for Neuroscience meeting*, 2010, 355.7, R18.

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84. Valino HB, McArthur DL, Yudovin S, **Giza** CC. Sports-related brain injuries in a pediatric TBI clinic. *J Neurotrauma* 2011 28:A-78, P210.

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86. Barkhoudarian G, Baquing MA, Okikawa D, Can Y, Hovda DA, **Giza** CC. Differential dose-dependent effects of MK801 pretreatment on post-TBI mortality, NMDAR and ERK expression, and signal transduction in the developing rat. *Congress of Neurological Surgeons*, 2011.

87. Lerner JT, Arndt DH, McArthur DL, Leung M, Valino HB, Madikians A, Yudovin S, Matsumoto JH, Brooks-Kayal AR, **Giza** CC. Look and you will find: A prospective look at early seizures in children with moderate-severe traumatic brain injury using continuous EEG monitoring. *Annals Neurol* 2011 70 (suppl 15):S162, E34.

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89. Sanchez S, Carpenter J, Chapman KE, Dlugos DJ, Gallentine W, **Giza** CC, Hahn C, Kessler SK, Goldstein J, Loddenkemper, Rivello JJ, Abend NS. Pediatric ICU EEG monitoring resources and utilization. *Accepted, American Clinical Neurophysiology Society annual meeting*, 2012.

90. Har D, Fazlollahi F, Cai Y, Hovda DA, Giza CC. A comparative look at molecular and behavioral neuroprotection using MK801 or memantine after traumatic brain injury in immature rats. *Society for Critical Care Medicine*, 2012.

91. Valino H, McArthur DL, Yudovin S, **Giza** CC. Sports and Recreation Brain Injuries in a Pediatric Specialty Traumatic Brain Injury Clinic. *Accepted, American Academy of Neurology, annual meeting* 2012.

92. Choe, M, Valino H, McArthur DL, **Giza** CC. Risk factors for development of post-concussive headaches in a pediatric TBI subspecialty clinic population. *Accepted, American Academy of Neurology, annual meeting* 2012.

93. **Giza** CC, Prins ML, SantaMaria NS, Reger ML, Buen F, Ponnaluri A, Har D, Alexander D, Cai Y and Hovda DA. Metabolism, neural activation and plasticity after TBI: A developmental perspective. *Accepted, Keystone Symposium: Clinical and Molecular Biology of Acute and Chronic Traumatic Encephalopathies*, 2012.

94. **Giza** CC. Is being plastic fantastic? Traumatic brain injury, environment and development. *Accepted, International Neuropsychological Society mid-year meeting*, 2012.

95. **Giza** CC. Plug it in and Turn it on: Connectivity and Activation after Pediatric Traumatic Brain Injury. *Accepted, International Neuropsychological Society mid-year meeting*, 2012.

96. Golla S, Neyens D, Boyle L, Kernic M, Vavilala M, **PEGASUS team**. Modeling the adherence to national guidelines for acute care of children with TBI. *Submitted, ISERC 2012*.

97. Babikian T, Alger JR, Marion S, **Giza** CC, Mink R and Asarnow R. A longitudinal analysis of metabolic abnormalities and their structural and neurobehavioral correlates following moderate to severe pediatric TBI. *Annals Neurol* 2012; 72 (suppl 16): S224. NI-3.

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100. Matsumoto JH, Caplan R, Mc Arthur D, Forgey M and **Giza** CC. Nonepileptic events following traumatic brain injury: comparison of two pediatric cohorts. *Annals Neurol* 2012; 72 (suppl 16): S211. E20.

101. Su M, Mc Arthur D, Lerner JT, Arndt D, Matsumoto J, Valino H, Yudovin S, Leung M and **Giza** CC. Timing Matters: Early Post-Traumatic Seizures in a Pediatric Population. *American Academy of Neurology annual meeting*, 2013.

102. Choe M, Mc Arthur D, Yudovin S, Fischer J and **Giza** CC. Risk Factors for Post-Concussive Headaches after Sport-Related TBI in a Pediatric Subspecialty Clinic Population. *Neurology*, 2013; 78(S1):P01179. Selected for Data Blitz presentation.

103. Hartonian I, Babikian T, Yudovin S, Valino HB, Fischer J and **Giza** CC. Sport-related concussion in youth: Impact on behavioral functioning. *American Academy of Neurology annual meeting*, 2013. Selected for Data Blitz presentation.

104. Abend NS, Arndt D, Carpenter JL, Chapman KE, Gallentine WB, **Giza** CC, Goldstein JL, Hahn CD, Lerner JT, Loddenkemper T, Matsumoto JH, McBain K, Nash NB, Payne E, Sanchez SM, Sanchez-Fernandez I, Shults J, Williams K, Yang A, Dlugos DJ, Pediatric Critical Care EEG Group and the Critical Care EEG Monitoring Consortium. Electrographic seizures in critically ill children. *American Clinical Neurophysiology Society annual meeting*, 2013.

105. Reid A, Bragin A, **Giza** CC, Staba R. Seeking seizures: Analysis of depth electrode-recorded EEG in experimental post-traumatic epilepsy. *Epilepsia*, 2013; 54(S1):44.

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107. Choe M, Mc Arthur D, Yudovin S, Fischer J and **Giza** CC. Risk factors for development of headache after traumatic brain injury in a pediatric subspecialty clinic population. *Child Neurology Society meeting*, 2013.

108. Chapman KE, Abend NS, Arndt DH, Carpenter JL, Cornett KM, Dlugos DJ, Gallentine WB, **Giza** CC, Hahn CD, Lerner JT, Loddenkemper T, Matsumoto JH, McBain K, Nash KH, Payne E, Sanchez Fernandez I, Sanchez SM, Williams K, Goldstein JL. Periodic and rhythmic patterns during EEG monitoring of critically ill children. *American Epilepsy Society meeting*, 2013.

109. Abend NS, Arndt D, Carpenter JL, Chapman KE, Cornett K, Dlugos D, Gallentine WB, **Giza** CC, Goldstein J, Hahn C, Lerner JT, Matsumoto JH, McBain K, Nash KH, Payne E, Sanchez-Fernandez I, Sanchez S, Williams K, Loddenkemper T. Electrographic seizures after convulsive status epilepticus in children. A retrospective multicenter study. *American Epilepsy Society meeting*, 2013.

110. Reid A, Bragin A, Engel J, Staba R, **Giza** CC. Age at traumatic brain injury affects excitability and seizure susceptibility. *American Epilepsy Society meeting*, 2013.

111. Goldstein J, Abend NS, Arndt D, Carpenter JL, Cornett K, Dlugos DJ, Gallentine WB, **Giza** CC, Hahn CD, Lerner JT, Loddenkemper T, Matsumoto JH, McBain K, Nash NH, Payne E, Sanchez Fernandez I, Sanchez S, Williams K, Chapman KE. Named coma patterns during EEG monitoring of critically ill children. *American Epilepsy Society meeting*, 2013.

112. Fischer J, Choe M, Yudovin S, McArthur D, Asarnow R, **Giza** C, Babikian T. Impact of traumatic brain injury on real-world measures of school performance in a pediatric TBI clinic population. *National Academy of Neuropsychology annual meeting*, 2013.

113. **Giza** CC, Prins ML, Choe MC, Fischer J, Kutcher JS, Hovda DA. Fact and Fiction and Sports Concussions. *Japan Neurosurgical Society annual meeting*, 2013.

114. **Giza** CC, Santa Maria NS, Buen F, Reger ML, Gurkoff GG, Harris NG, Babikian T, Cazalis F, DeBoard Marion S, Asarnow RF and Hovda DA. Bench to Bedside: Neuroplasticity and Recovery after Pediatric TBI. *Japan Neurosurgical Society annual meeting*, 2013.

115. **Giza** CC. Monitoring the Injured Brain: From Coma to Sports Concussions. *Symposium on Engineering, Medicine and Biology Applications (SEMBA)*, 2014.

116. Vavilala MS, Kernic MA, Wang J, Kannan N, Mink RB, Wainwright MS, Groner JI, Bell MJ, **Giza** CC, Zatzick DF, Ellenbogen RG, Boyle LN, Mitchell PH, Rivara FP. Acute care clinical indicators associated with discharge outcomes in children with severe TBI. *J Neurotrauma* 2014, 31:A-20, abstract A1-10.

117. Broliar SM, Vavilala MS, Whiteside LK, Thompson JH, Mink RB, Wainwright MS, Groner JI, Bell MJ, **Giza** CC, Zatzick DF, Ellenbogen RG, Boyle LN, Mitchell PH, Rivara FP. Factors associated with clinician adherence to pediatric TBI guidelines: A qualitative study. *J Neurotrauma* 2014, 31:A-21, abstract A1-13.

118. Biswas C, Hokhikyan V, Karkare VP, Segal A, **Giza** CC, Markovic D, Cai Y, Hovda DA. Electrophysiological Signatures of Juvenile Mild TBI during Novel Object Recognition. *J Neurotrauma*, 2014, 31:A-64, abstract B4-16.

119. Choe MC, Fischer J, Zeiger M, Yudovin S, **Giza** CC. Postural Orthostatic Tachycardia Syndrome after mild TBI. *J Neurotrauma*, 2014, 31:A-70, abstract B4-31.

120. Dennis EL, Jin Y, Villalon-Reina JE, Kernan CL, Mink RB, Babikian T, **Giza** CC, Asarnow RF, Thompson PM. Longitudinal Tract-Based Analysis of Callosal Disruption in Moderate/Severe Pediatric TBI. *J Neurotrauma*, 2014, 31:A-69, abstract B4-28.

121. Kannan N, Wang J, Mink RB, Wainwright MS, Groner JI, Bell MJ, **Giza** CC, Zatzick DF, Ellenbogen RG, Boyle LN, Mitchell PH, Rivara FP. Hypotension patterns and vasopressor choice after severe TBI across 5 pediatric trauma centers. *J Neurotrauma*, 2014, 31:A-69, abstract B4-30.

122. Segal A, Biswas C, Cai Y, **Giza** CC, Hovda DA. Examining D-cycloserine administration protocols in developing rats following LFPI and reducing variability in pCaMKII levels. *J Neurotrauma* 2014, 31:A-62, abstract B4-10.

123. Zeiger M, Fischer J, Choe M, McArthur D, Yudovin S, **Giza** CC. Longitudinal Recovery of Reaction Time in Acute and Chronic Concussion Patients. *J Neurotrauma* 2014, 31:A-49, abstract B1-16.

124. Furukawa D, **Giza** CC. Sleep disturbance in sports-related concussion in children. *J Neurotrauma*, 2014, 31:A-61, abstract B4-06.

125. The National Sports Concussion Outcomes Study (**NSCOS**) Consortium. Effect of a Single Season of Sport Participation on Clinical Neurological Outcomes: A Comparison of Non-Contact, Contact, and Collision Sport Athletes. Accepted, *AAN Sports Concussion Conference*, 2014.

126. Ng A, Choe M, Yudovin S, Fischer J, McArthur DL, **Giza** CC. Unusual (and not-so-unusual) sequelae of pediatric traumatic brain injury. Accepted, *Child Neurology Society*, 2014.

127. Choe MC, Yudovin S, Fischer J, Zeiger M, **Giza** CC. Complicated mild: redefining severity in traumatic brain injury. Accepted, *Child Neurology Society*, 2014.

128. Rajaraman RR, Lerner JT, Arndt DH, McArthur D, Fischer J, Zeiger M, Choe M, **Giza** CC. Predictive model for early post-traumatic seizures in the PICU. Submitted, *American Epilepsy Society*, 2014.

BOOKS

1. Donnelly TJ and **Giza** CC. Differential Diagnosis Mnemonics. Philadelphia, PA. Hanley and Belfus, Inc., 2001.
2. Bhidayashiri R, Waters M and **Giza** CC. Neurological Differential Diagnosis: A Prioritized Approach. Malden, Massachusetts. Blackwell Publishing, 2005.
3. **Giza** CC. Section Editor, Central Nervous System Trauma. In International Neurology: A Clinical Approach. Lisak RP, Truong DD, Carroll W, Bhidayasiri R, eds. Wiley-Blackwell Publishing, 2009.

TEACHING

Housestaff

Neurosurgery housestaff mentored (with dates mentored and current positions - 5):

Igor Fineman, M.D. 1998-2000; Neurosurgical residency completed at UCLA in 2000; current position – Attending Physician, Neurosurgeon, Huntington Memorial Hospital with appointment at California Institute of Technology.

T. J. Spinks, M.D. 2002-2005, Neurosurgical residency completed at UCLA in 2005; current position – Assistant Clinical Professor, University of Pittsburgh Medical Center, Pittsburgh, PA.

Garni Barkhoudarian, M.D. 2007-2011; Neurosurgical residency completed at UCLA in 2011. Completed skull base fellowship at Brigham and Women's Hospital, Boston, MA 2012. Current position – Attending physician, St. John's Hospital, Santa Monica, CA.

Jason Hauptman, M.D. 2008-2010 Ph.D. 2011, currently in residency training at UCLA.

- Recipient of NIH/UCLA Mental Retardation Research Center Predoctoral Fellowship, 2009-2010.

Llewellyn Padayachy, M.D. 2009-2010. MMed 2010. University of Cape Town, South Africa. External Examiner for MMed dissertation.

Neurosurgery Resident Research Committee, Division of Neurosurgery, UCLA School of Medicine, 2003-present.

Neurosurgery didactic teaching

Neurosurgery Basic Science lecture, "A Resident's Guide to Developmental Physiology and Developmental Brain Injury". Neurosurgery Teaching Day, UCLA Division of Neurosurgery. January 19, 2005.

Neurosurgery Basic Science lecture, "Is Being Plastic Fantastic? Mechanisms for Post-Injury Plasticity and Recovery in the Developing Nervous System." Neurosurgery Teaching Day, UCLA Division of Neurosurgery. February 21, 2007.

Neurosurgery Basic Science lecture, "Found in Translation: Modulating Neural Activation After TBI from the Bench to the Clinic (and Back)." UCLA Division of Neurosurgery. April 16, 2008.

Neurosurgery Basic Science lecture, "Neurotransmission, Excitotoxicity and Plasticity: Is Being Plastic Fantastic?" UCLA Department of Neurosurgery. March 21, 2012.

Pediatric Neurology housestaff mentored (with dates mentored and current positions - 18):

Rinat Jonas, M.D.; 2001-2004; Pediatric neurology fellowship completed at UCLA in 2002; current position – Assistant Professor, Director of Long-term EEG Monitoring, Boston University School of Medicine, Boston, MA.

Gabrielle Glasser M.D.; 2002-2004; Pediatric neurology fellowship completed at UCLA in 2004; current position – Attending Physician, Kaiser Permanente, Woodland Hills, CA.

Pantea Sharifi, M.D.; 2003-2005; Pediatric neurology fellowship completed at UCLA in 2005; current position – Clinical Assistant Professor, Division of Pediatric Neurology, Mattel Children's Hospital at UCLA and Attending Physician, private practice, Palos Verdes, CA.

Peter F. Morrison, M.D.; 2004-2006, Pediatric neurology fellowship completed at UCLA in 2006; Epilepsy Fellow, Johns Hopkins University, Baltimore, MD 2007-2008; current position – Attending Physician, private practice, Maine Neurology, Scarborough, ME.

Jeff Ekstrand, M.D., Ph.D.; 2005-2007, Pediatric neurology fellowship completed at UCLA in 2007; current position – Assistant Professor, University of Utah, Salt Lake City, UT.

Sarah Copeland, M.D., Ph.D.; 2005-2007, Pediatric neurology fellowship completed at UCLA in 2007; Neurotrauma postdoctoral fellowship completed at UCLA in 2008; Clinical Instructor, UCLA Department of Neurosurgery and Division of Pediatric Neurology, Los Angeles, CA 2008-2009; current position – Attending physician, Santa Clara County Hospital.

Daniel Arndt, M.D.; 2003-2008, Pediatric neurology fellowship completed at UCLA in 2008; current position – Attending physician, Beaumont Children's Hospital, Royal Oak, MI.

- Recipient of *National EpiFellows Foundation Research Grant*, 2009-2010.

Melissa Przeklaska, M.D.; 2008-2010, Pediatric neurology fellowship completed at UCLA in 2010; current position – Attending physician, private practice, Laguna Beach, CA.

Meeryo Choe, M.D.; 2007-ongoing, Pediatric neurology fellowship completed at UCLA in 2012; current position - Neurotrauma postdoctoral fellowship at UCLA 2012-2014. See post-doctoral fellow, below.

- Recipient of the *Morris A. Hazan Friends of the Semel Institute Fellowship*, 2012-2013.

Shaun Hussain, M.D., M.P.H.; 2007-2011, Pediatric neurology fellowship completed at UCLA in 2010; Pediatric epilepsy fellowship at UCLA completed in 2011; current position – Assistant Professor, UCLA Pediatric neurology.

Lekha Rao, M.D.; 2009-2011, Pediatric neurology fellowship completed at UCLA in 2011; current position – Clinical instructor at UCLA.

Nicole Cobo, M.D.; 2009-2012, Pediatric neurology fellowship completed at UCLA in 2012; current position – Pediatric epilepsy fellowship at UCLA.

Daniel Shrey, M.D.; 2008-2013, Pediatric neurology fellowship completed at UCLA in 2013; current position – Pediatric epilepsy fellowship at UCI.

Ivet Hartonian, M.D.; 2009-2013, Pediatric neurology fellowship completed at UCLA in 2013; current position – pediatric neurologist, California Children's Services.

Tammy Yuen, M.D.; 2012-ongoing, in fellowship at UCLA

Rujuta Bhatt, M.D.; 2011-ongoing, in fellowship at UCLA

Farah Villanueva, M.D.; 2012-ongoing, Completed residency at Loma Linda, in fellowship at Harbor-UCLA.

Rajsekhar Rajaraman, M.D.; 2013-ongoing, in fellowship at UCLA.

Pediatric housestaff mentored (with dates mentored and current positions - 7):

Jerry Cheng, M.D., 2001-2002; Pediatrics residency completed at UCLA in 2003.

Brent Gordon, M.D.; 2001-2003; Pediatrics residency completed at UCLA in 2004; completed pediatric cardiology fellowship at UCLA 2007.

Myke Drayer-Federman, M.D. 2004-2007; Pediatric critical care fellowship completed at UCLA in 2007; current position – Assistant Professor of Pediatric Critical Care, UCLA, Los Angeles, CA.

Yu-Tsun Cheng, M.D. 2007-2008; completed pediatrics residency at UCLA in 2008; completed sports medicine fellowship at Kaiser Permanente, Los Angeles 2009.

Jeremy Moore, M.D. 2007-2008; completed pediatric cardiology fellowship at UCLA 2008.

Michelle Schober, M.D. 2009-ongoing; began mentoring as junior faculty at University of Utah in 2009. Served as extramural mentor for TBI on K12; current position – Associate Professor of Pediatric Critical Care Medicine, University of Utah School of Medicine.

Delee Har, M.D. 2010-2012; completed pediatric critical care fellowship at Harbor-UCLA 2012; current position – Attending physician, Children's Hospital of Orange County.

Neurology housestaff mentored (with dates mentored, honors and current positions - 9):

Michael Waters, M.D., Ph.D.; 2002-2004; Neurology residency completed, UCLA, 2004; Neurogenetics fellowship, Cedars-Sinai Medical Center, 2004-2006; current position - Assistant Professor and Director, Stroke Program, University of Florida.

Richard Bhidayasiri, M.D.; 2002-2004; completed residency at UCLA 2004; completed movement disorders fellowship, UCLA, 2004-2006; current position – Associate Professor of Neurology, Chulalongkorn Comprehensive Movement Disorders Centre Chulalongkorn University Hospital Bangkok and Visiting Professor (Movement Disorders), UCLA Department of Neurology, Los Angeles, CA.

Sarah Kremen, M.D.; 2006, UCLA Department of Neurology, Los Angeles, CA.

Edmond Teng, M.D., Ph.D.; 2007-present, UCLA Department of Neurology, Los Angeles, CA. current position – Visiting Assistant Professor of Neurology, UCLA.

- Recipient of *UCLA Alzheimer Disease Research Center (ADRC) Pilot Grant*, 2007-2008.
- Recipient of *NIH/NINDS K08 award*, 2009-2014.
- Recipient of *Paul B. Beeson Career Development in Aging award*, 2009-2011.

Navaz Karanjia, M.D. 2007-2008. UCLA Department of Neurology. Los Angeles, CA. Neurocritical Care Fellow, Johns Hopkins 2008-2010. Current position – Director, Neurocritical Care, Department of Neurosurgery – University of California, San Diego.

Michael Su, M.D. 2011-2013. UCLA Department of Neurology, Los Angeles, CA.

Korak Sarkar, M.D. 2012-2013. Kerlan Jobe Sports Clinic, Cedars-Sinai Neuro ICU, Los Angeles, CA. Neurotrauma Fellow. Current position – Brain Injury Fellow, Chicago, IL.

Ryan Martin, M.D. 2013-present. UCLA Department of Neurology, Los Angeles, CA. Current position – Chief Resident.

Amaal Starling, M.D. 2013-2014. Headache Fellow, Mayo Clinic Scottsdale. Visiting fellow at UCLA, Los Angeles, CA.

Pediatric and Pediatric Neurology clinical teaching

Pediatric Neurology outpatient clinic, UCLA Medical Center. Supervised and instructed pediatric and neurology residents. August 2001-present.

Pediatric Neurology inpatient and consultation service, UCLA Mattel Children's Hospital. Supervised and instructed pediatric and neurology residents and pediatric neurology fellows. September 2001-present.

General Pediatrics, Critical Care and Pediatric Neurology didactic teaching

Pediatric Morning Report, UCLA Mattel Children's Hospital. Provided neurological perspective to pediatric housestaff clinical case presentations. September 2001-2004.

Pediatric Housestaff Noon Conference, clinical lectures to pediatric interns and residents, Mattel Children's Hospital - UCLA

- "Management of Pediatric Traumatic Brain Injury". February 20, 2002; February 6, 2004.
- "Sports-related Head Injuries in Children and Young Adults". March 12, 2003.
- "Cerebral Palsy: Diagnosis, Etiology and Management". May 18, 2005.
- "Evidence-Based Guidelines for the Management of Severe Pediatric Traumatic Brain Injury". September 6, 2005.

- "Management of Mild Pediatric Traumatic Brain Injury: Head bumps and Sports concussions". May 8, 2006.
- "Pediatric Traumatic Brain Injury: Management and Follow-up". January 5, 2007; September 10, 2007.
- "Management of Pediatric Neurological Emergencies" clinical lecture to PGY2 residents. July 17, 2002; July 7, 2003; July 7, 2004; July 2, 2008.
- "Pediatric Sports Concussions." April 19, 2010.
- "Play with a Full Deck: Evidence-Based Guidelines for Sports Concussion Management." March 11th, 2013.

Department of Pediatrics Journal Club. Presented basic science articles relevant to pediatrics. "Nature vs. Nurture: Determinants of Cognitive Development" October 24, 2002.

Neurology Teaching Conference, lectures to adult neurology residents, David Geffen School of Medicine at UCLA.

- "Sports-related Traumatic Brain Injury" clinical lecture to adult neurology residents and faculty. November 13, 2002.
- "Traumatic Brain Injury: From Concussion to Coma" lecture to neurology residents. May 11, 2011.
- "Mild TBI: Concussion" summer stock lecture to neurology residents. August 10, 2011.
- "Who Gives a Rat's...Brain?" lecture to neurology residents. June 20, 2012.

Pediatric Neurology Noon Conference, subspecialty lecture to pediatric neurology medical students, residents, fellows, faculty and staff, Mattel Children's Hospital - UCLA.

- "A Clinician's Guide to Traumatic Brain Injury Pathophysiology (with special attention to kids and development). January 29, 2004.
- "Pediatric Traumatic Brain Injury Update: New Horizons in 2005." April 21, 2005.
- "Glutamate: A Two-Edged Sword for Pediatric Traumatic Brain Injury." March 29th, 2007.
- "The Pathobiology of Concussion", April 19th, 2007.
- "Management of Pediatric Sports Concussions: Head bumps, dings and hard knocks," May 9, 2008.
- "Surfing the Neural Network: Recovery of Connectivity after Pediatric TBI and Developing a Translational Model," October 3, 2008.
- "Imaging Brain Function and Restoring Plasticity after Pediatric TBI," April 10, 2009.
- "Because It Is There: Head Injuries in Rockclimbing and Mountaineering," May 1st, 2009.
- "Everything You Ever Wanted to Know about Concussions...and Then Some", September 3, 2010.
- "Severe Pediatric TBI: Acute Care Beyond the Guidelines", October 29, 2010.
- "Blast from the Future: A Civilian Look at the New Military Approach to Mild TBI in Afghanistan", April 22, 2011.
- "Mild TBI: Cases in Sports Concussion", September 23, 2011.
- Journal Club: Randomized controlled trial of amantadine for TBI, Giacino et al., NEJM 2012. March 16, 2012.
- "Hard Hitting Sports Concussion Guidelines: How they will impact the field". September 21, 2012.

Pediatric Critical Care Fellows Conference, subspecialty lecture to pediatric critical care residents, fellows and faculty.

Mattel Children's Hospital at UCLA.

- "Pediatric Traumatic Brain Injury: Management and Research at the UCLA Brain Injury Research Center", July 20th, 2007.
- "Beyond the Guidelines: Advanced Acute Management of Pediatric TBI", August 13th, 2009.
- Journal Club: A Trial of ICP monitoring in TBI, Chesnut et al., NEJM 2012. January 8, 2013.

Nurses

Level 1 Pediatric Neurology Class

- "Just the Facts: Evidence-Based Guidelines for Youth Sports Concussion Management", October 21st, 2013.

Medical Students

Medical Students mentored (with dates, degrees obtained and current positions - 9):

Luigi diStefano, summer 2003; M.D. Washington University School of Medicine, 2006; Emergency Medicine residency, Stanford University 2006-10.

Julia Breault, 2006-2007; M.D. Ross University School of Medicine, Dominica, 2011.

Mary Anne Baquing, fall 2008-2011; M.D. David Geffen School of Medicine at UCLA, 2012. Current position – Obstetrics & Gynecology residency, Harbor-UCLA, Torrance, CA, 2012-2015.

Floyd Buen, fall 2010-2011; current position – MS3 University of California, San Diego School of Medicine. 2010-2015.

- Recipient, *Howard Hughes Medical Research Fellowship*, 2012-2013.

Nina Azer, winter-spring 2011; current position – MS3 Ross University School of Medicine, Dominica; 2010-2014.

Andrew Ng, summer 2011, winter 2013-2014; current position – MS4 University of Vermont Medical School; 2010-2014.

David Chang, summer 2012; current position – MS2, Chicago Medical School; 2011-2015.

Daisuke Furukawa, fall 2012-present; current position – MS3, David Geffen School of Medicine at UCLA; 2011-2015.
Kyla Sherwood, winter 2013-present; current position – MS1, David Geffen School of Medicine at UCLA; 2013-2017.

Medical student didactic teaching

Medical Student Core lecture “The Many Faces of Pediatric Neurology”: November 26, 2003; March 9, 2005; March 8, 2006; September 20, 2006; October 31, 2007; May 4, 2009, November 4, 2009; September 1, 2010.

Graduate/Postgraduate

Postdoctoral fellows mentored (with dates mentored, honors and current positions - 10):

Takeshi Maeda, M.D., Ph.D.; 1999-2001; current position – Assistant Professor, Departments of Neurosurgery and Dentistry, Nihon University, Tokyo, Japan

Elisa Roncati-Zanier, M.D.; 2001-2002; current position – Director of Unit of Cell Therapy and Acute Brain Injury, Department of Inflammation and Nervous System Disease, Mario Negri Institute, Milano, Italy

Qingxia Li, M.D., Ph.D.; 2003-2006, completed UCLA postdoctoral fellowship 2006.

Fabienne Cazalis, Ph.D.; 2004-2008, completed UCLA postdoctoral fellowship 2008; last known position – Assistant Professor, Department of Neuroscience, Ross University School of Medicine, Dominica, and Staff Research Assistant (consultant), UCLA Department of Psychiatry and Biobehavioral Sciences.

- Recipient of *BRI/Semel Institute Neuroscience Postdoctoral Fellow Award* to attend the Society for Neuroscience annual meeting, 2007.

Talin Babikian, Ph.D.; 2005-2010, current position – Assistant Research Professor, UCLA Department of Psychiatry and Biobehavioral Sciences, Los Angeles, CA.

- Recipient of *NIH/NINDS National Research Service Award for the project: Neuroimaging and Recovery after Pediatric Traumatic Brain Injury*, F32 NS053169. Funding period 2006-2008 (2 years).
- Recipient of the UCLA Brain Injury Research Center Young Investigator Award 2007-2008.
- Recipient of *Student Travel Scholarship* to attend National Neurotrauma Society meeting, 2009.

Sarah Copeland, M.D., Ph.D.; 2007-2009, completed Neurotrauma postdoctoral fellowship 2008; Clinical Instructor, UCLA Department of Neurosurgery and Division of Pediatric Neurology, Los Angeles, CA 2008-2009. Attending physician, Santa Clara County Hospital, Santa Clara, CA, 8/2009-present.

Andrew Poulos, Ph.D.; 2008-2013, current position – Assistant Professor, University at Albany, SUNY, Albany, NY.

Tiffany Greco, Ph.D.; 2011-ongoing, current position – Postgraduate Researcher, UCLA Department of Neurosurgery, Los Angeles, CA.

Aylin Reid, M.D., Ph.D.; 2012-ongoing, current position – Postgraduate Researcher and Epilepsy Fellow, UCLA Department of Neurology, Los Angeles, CA.

- Recipient of *Alberta Innovates Health Solutions* fellowship, 2012-2013.

Meeryo Choe, M.D.; 2012-ongoing; current position - Neurotrauma postdoctoral fellowship at UCLA 2012-2014. Clinical Instructor, UCLA Division of Pediatric Neurology, 2013-present.

- Recipient of the *Morris A. Hazan Friends of the Semel Institute Fellowship*, 2012-2013.
- Recipient of *NARSAD Young Investigator Grant from the Brain and Behavior Research Foundation*, 2013-2015.
- Recipient of the *Drown Foundation Friends Fellowship* 2014.
- Recipient of *Student Travel Scholarship* to attend National Neurotrauma Society meeting, 2014.

Graduate student thesis committee member (with dates, honors and degrees obtained and current positions - 10):

Cheri Osteen, 2000-2002; Ph.D. in Neuroscience, UCLA 2002; current position – Medical Writer, Amgen, Inc. Thousand Oaks, CA.

Shoshanna Vaynman, 2003-2005; Ph.D. in Physiological Sciences, UCLA 2005; completed postdoctoral fellowship, Department of Physiological Sciences, UCLA, with Dr. Fernando Gomez-Pinilla.

Gene Gurkoff, 2002-2006; Ph.D. in Neuroscience, UCLA 2006; Dissertation: “The Effect of Chemically-Induced Status Epilepticus on the Post-Traumatic Brain: A Characterization of Secondary Injury in the Immature Rat.” Current position – Assistant Professor-In Residence, Department of Neurosurgery, University of California, Davis, 2013.

- Recipient of *National Neurotrauma Society Al Faden Award* for a top 5 student abstract, National Neurotrauma Society meeting, 2005.

Robert Lemoyne, 2008-2010; Ph.D. in Biomedical Engineering, UCLA 2009. Dissertation: "Wireless Quantified Reflex Device."

Maxine Reger, 2005-2011, Ph.D. in Experimental Psychology, UCLA 2011. Dissertation: "Enhanced Fear Learning Following Mild Traumatic Brain Injury in the Rat."

- Recipient of *Student Travel Scholarship* to attend the New Frontiers in Pediatric Traumatic Brain Injury meeting, 2007.
- Recipient of *Student Travel Scholarship* to attend National Neurotrauma Society meeting, 2008.
- Selected for the *Student Research Competition* (top 16 student abstracts) at the National Neurotrauma Society meeting, 2009; 2010.
- Current position – Postdoctoral Fellow, NIAAA. Bethesda, MD.

Naomi Santa Maria, 2006-2012, Ph.D. in Biomedical Engineering, NeuroEngineering Training Program, UCLA 2012.

Committee chair.

- Selected for the *Student Research Competition* (top 16 student abstracts) at the National Neurotrauma Society meeting, 2008; 2010.
- Recipient of *Student Travel Scholarship* to attend National Neurotrauma Society meeting, 2009.
- Current position – Postdoctoral Fellow, California Institute of Technology. Pasadena, CA.

Chaitali Biswas, 2011-ongoing; currently in 4th year of Ph.D. in Biomedical Engineering, UCLA.

Daya Alexander, 2010-ongoing; currently in 4th year of Ph.D. in Neuroscience, UCLA.

- Selected for the *Student Research Competition* (top 16 student abstracts) at the National Neurotrauma Society meeting, 2011, 2014.

Derek Verley, 2009-ongoing; currently in 5th year of Ph.D. in Neuroscience, UCLA.

Andrew Segal, 2013-present; currently in 2nd year of Ph.D. in Neuroscience, UCLA.

Graduate students supervised/mentored (with dates, honors and degrees obtained and current positions – 7):

Andrew Hufford, 1998-2000; M.S. UCLA 2000; last known position – Attorney, Salt Lake City

Emily Ip, 2000-2003; Ph.D. in Neuroscience, UCLA 2003; current position – Senior Research Associate, Anacor Pharmaceuticals, Palo Alto, CA

Che Hutson, 2005-2008; Ph.D. in Neuroscience, UCLA 2009; last known position – Postdoctoral Fellow, Boston MA

- Selected for the *Student Research Competition* (top 16 student abstracts) at the National Neurotrauma Society meeting, 2007.
- Recipient of *BRI/Semel Institute Neuroscience Postdoctoral Fellow Award* to attend the Society for Neuroscience annual meeting, 2007.

Gretchen Miller, 2006-2011; Ph.D. in Neuroscience, UCLA. Current position – Postdoctoral Fellow, Cedars-Sinai Medical Center. Dissertation: "Endogenous Stem and Progenitor Cell Responses of the Subventricular Zone and Cortex Following Traumatic Brain Injury."

- Selected for the *Student Research Competition* (top 16 student abstracts) at the National Neurotrauma Society meeting, 2009.

David Johnston, 2007-2009; Ph.D. in Neuroscience, UCLA.

Kim Hathaway, 2007; Neuroscience, UCLA.

Hannah Valino, 2010-2012; M.P.H. UCLA 2011. Current position – MS1, University of California, Davis School of Medicine, 2013.

Special graduate student mentoring (4):

Ashley DiBattista, 2008; York University, M.S. 2008. Pediatric Neuropsychology, University of Melbourne, Australia Ph.D. 2013 Was a visiting graduate student as part of special award listed below.

- Recipient of the *Women in Neurotrauma VISA Award* for a foreign graduate student to attend the National Neurotrauma Society annual meeting and then visit the institution and mentor of their choice for a 2 week rotation, 2008.

Margaretha Helen Clausen, 2011, Ph.D. in Neuropsychology. University of Melbourne, Australia. External Examiner for Ph.D. Dissertation titled "Acute Neurocognitive Impairment in Professional Boxing."

Megan Morrison, 2011-2012, M.F.A. candidate Carnegie-Mellon University. Served as scientific advisor and proofreader for a screenplay submitted to the Alfred P. Sloan Foundation Screenwriting Competition.

Francesca Pischiutta, 2012-2013, Ph.D. candidate. Visiting graduate student as part of special award.

- Recipient of the *Women in Neurotrauma VISA Award* for a foreign graduate student to attend the National Neurotrauma Society annual meeting and then visit the institution and mentor of their choice for a 2 week rotation, 2012.

Graduate student didactic teaching

Psychology 298: Brain Injury and Recovery of Function. "Is a Younger Brain a Better Brain?" lecture on effects of age-at-injury for UCLA graduate course, May 16, 2000.

Physiological Science 241: Substrates for Neural Repair. "Injury to the Developing Brain" lecture for UCLA graduate course. February 20 and 27, 2002; February 19, 2003.

Physiological Science 241: Substrates for Neural Repair. "Pathophysiology of Traumatic Brain Injury" lecture for UCLA graduate course. February 26, 2003.

Physiological Science 241: Substrates for Neural Repair. "Is a Younger Brain a Better Brain?" lecture for UCLA graduate course. February 25 and March 3, 2004; February 7, 2005.

Physiological Science 241: Substrates for Neural Repair. "Glutamate and Development: Good or Bad?" lecture for UCLA graduate course. February 6, 2006.

NeuroEngineering Journal Club. Brainstorming session: Development of technologies for real-time chemical sensing in the injured brain. February 1, 2007.

Psychology Journal Club: Fear conditioning following Traumatic Brain Injury, presented by Maxine Reger. February 7, 2007.

Physiological Science 241: Substrates for Neural Repair. "Is Being Plastic Fantastic? Mechanisms of Altered Plasticity Following Developmental Traumatic Brain Injury." lecture for UCLA graduate course. February 21, 2007; February 20, 2008.

Neuroscience 210C: Journal Reading and Scientific Review, Spring 2008. 10 week course teaching critical reading of scientific articles and studies. Wide ranging topics, from historical papers to clinical research to issues in scientific/biomedical ethics (16 students).

Undergraduate/Postbaccalaureate (27)

Undergraduate students mentored (with dates, honors and degrees obtained and current positions):

Brian Nahed, 1998-2000; B.S. UCLA 2000; M.D. Yale University, 2005; Neurosurgery residency, Massachusetts General Hospital 2005-2011.

Angela Echiverri, 1999-2000; B.S. UCLA 2000; M.P.H. Johns Hopkins University 2005; M.D. UCSF 2012.

Alana Lozada, 1999-2001; lab technician; B.S.N. UCSD 2006; M.S. nursing, UCSD 2008.

Niloofar Farmani, 2000-2001; B.S. UCLA 2001; M.D. St. George's University School of Medicine, Grenada, 2006; Pediatrics residency, New York City, 2007-2010.

Tad Kremen, 1999-2001; B.S. UCSB 1999; lab technician UCLA 1999-2002; M.D. UCLA 2006; Orthopedic Surgery residency, UCLA 2006-2012.

Jenny Hoffman, 2000-2002; B.S. UCLA 2002; M.D. UCSD 2007.

Naomi Santa Maria, 2002-2006; B.A. University of Pennsylvania 2005; Ph.D. in Biomedical (Neuro) Engineering, UCLA 2012; see graduate student, above.

Maxine Reger, 2003-2005; B.A. Cal State Fullerton 2003; Volunteer Lab Assistant, UCLA Neurotrauma Lab 2003-2005; Ph.D. in Psychology, UCLA, 2011; see graduate student above.

Jane So-youn Lee, 2004-2005; B.S. UCLA 2005; M.D. UCI 2010.

- Recipient of *UCLA Undergraduate Research Scholarship* 2004-2005 for undergraduate thesis work

Michaelann Ferraro, Summer 2005; B.A. Georgetown University 2007.

Julia Breault, 2005-2007; B.S. UC Berkeley; M.D. Ross University School of Medicine, Dominica 2011.

Mary Anne Baquing, 2005-2008, B.S. in Psychobiology at UCLA 2007; Lab Assistant, UCLA Neurotrauma Lab 2007-8; M.D. David Geffen School of Medicine at UCLA 2012. Current position – Resident in Obstetrics/Gynecology, Harbor-UCLA Medical Center, 2012-2016.

- Recipient of *UCLA Undergraduate Research Fellows Program (URFP) Scholarship* for research work, winter-spring 2007.

Nick Covard, 2007; B.S. UCLA 2007; Marine Biology researcher.

Farrah Vali, 2007-2008, B.S. UCLA 2009.

David Garfinkel, 2007-2010, B.S. Psychobiology UCLA 2009, Lab Assistant, UCLA Neurotrauma Lab (with Dr. Grace Griesbach), 2009-2010.

- Recipient of *Educational Employees Credit Union (EECU) Educational Grant*, 2009.

Hannah Valino, 2007-2012, B.S. Psychobiology UCLA, 2009; Assistant Community Health Organizer, UCLA Brain Injury Research Center 2009-2010; MPH UCLA 2010-11. Accepted UCD School of Medicine 2013.

David Okikawa, 2008-2010, B.S. Neuroscience UCLA 2010, last known position - Instructor in JET program, teaching English in Japan 2011-2013.

- Recipient of *Outstanding Poster Award* (top 5 out of 75 posters) at the 11th Annual Neuroscience Undergraduate Poster Session.

Aditya Ponnaluri, 2008-ongoing, B.E. Biomedical Engineering UCLA 2011, M.E. Masters in Biomedical Engineering, UCLA 2012.

- Recipient of *UCLA Undergraduate Research Fellows Program (URFP) Scholarship* for research work, winter-spring 2011.

Floyd Buen, 2009-2012, current position – Medical Student, University of California, San Diego, 2010-2015.

- *Howard Hughes Medical Student Research Fellow*, 2012-2013.

Kathleen Xu, 2009-2011, B.S. Psychobiology at UCLA 2011.

Farbod Fazlollahi, 2010-2012, B.S. Neuroscience UCLA 2010; last known position - Research Assistant, UCLA metabolomic laboratory.

Phoebe Hua, 2010-2013, B.S. Psychobiology UCLA 2013, last known position – applying for medical school.

Divya Siddarth, 2011-2013, last known position - high school student.

Jesse Fischer, 2012-ongoing, B.S. Psychology Occidental 2012, UCLA Pediatric TBI – Sports Concussion Program coordinator 2012-2014; current position – Ph.D. candidate, Baylor University Neuropsychology Program.

Max Zieger, 2013-ongoing, B.S. Neuroscience UMICH 2013, UCLA Pediatric TBI – Sports Concussion Program research volunteer 2013-2014; current position – Research Coordinator, UCLA Pediatric TBI – Sports Concussion Program. UCLA Steve Tisch BrainSPORT program.

Lauren Fraund, 2014-ongoing, currently UCLA undergraduate.

Camille Ramirez, 2014-ongoing, B.S. UCSB 2013, current position – research volunteer, UCLA Pediatric TBI – Sports Concussion Program.

Undergraduate research teaching

Student Research Project 99: Winter 2000-present. Supervised and mentored undergraduate students in basic science research (12 students – Nahed, Echiverri, Farmani, Hoffman, Lee, Baquing, Vali, Garfinkel, Ponnaluri, Okikawa, Hua, Fraund).

Independent Research 199: Winter 2000-present. Supervised and mentored undergraduate students in independent basic science research and writing of a thesis (7 students – Farmani, Lee, Baquing, Garfinkel, Okikawa, Ponnaluri, Hua).

Undergraduate didactic teaching

Physiological Science 144: Neural Control of Physiological Systems. “A Nauseous Nocturne: Sleep and Dreaming” lecture on sleep physiology for combined UCLA undergraduate and graduate course. November 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2011, 2012, 2013; October 2010.

Psychology 372: Biological Psychology. “Acquired Brain Injury - Trauma, Seizures, Stroke, Tumors: How the Brain is Hurt” undergraduate lecture. Pepperdine University, Malibu, CA. October 2004, 2005, 2009, 2010, 2013; November 2006, 2007, 2008, 2011; February 2008, 2009, 2011; March 2012, 2014.